Introduction

THE VISUAL DISCLOSURE OF INFORMATION IN STAND-ALONE SUSTAINABILITY REPORTS: A STUDY OF IMPRESSION MANAGEMENT

Student: Mirwais Usmani

Supervisor: Professor Jane Davison

Advisor: Professor Christopher Napier

Declaration of authorship

I, Mirwais Usmani, thereby declare that this thesis and the work presented is in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Signed: M.Usmani

Acknowledgements

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Finally, I would also like to thank my parents and wife, who have been really supportive and also encouraged me to work hard despite financial hardships. They never put pressure on me and always remembered me in their prayers. I would also dedicate this thesis to my son Suliman Usmani, who is just three months old and whom I have only seen through pictures and videos.

Abstract

This thesis examines standalone sustainability reporting, with a focus on visual communication, through a study of the GRI (Global Reporting Initiative) compliant reports of companies worldwide.

It takes a blended theoretical framework of visual impression management theories and legitimacy theory to analyse the standalone sustainability reports of 69 companies worldwide in four highly sensitive sectors (Chemical, Energy, Automotive, and Mining) and four less sensitive ones (Financial Services, Telecommunications, Media, and Retailing). The research firstly examines the overall archival content of standalone sustainability reports and their breakdown into numbers, narratives, visuals, mixed materials, and blank space. It then further analyses graph types, the topics graphed, the time series and colours used, together with their potential for visual impression management through the reporting of 'good' and 'bad' news, and through graphical distortion. Finally, the authorship and preparation of standalone sustainability reports is considered through six interviews with key preparers.

The key findings are: (1) that sustainability reports have become lengthy documents incorporating substantial proportions of visual material, with double the usage of graphs compared to annual reports; (2) companies typically use column and bar graphs, focus on environmental and social rather than economic issues, display relatively shorter time-series (less than five years), and show a preference for the colour green; (3) high sensitive sectors use more visuals, graphs and engage in more visual impression management in the context of graphs compared to the low

sensitive sectors; (4) the preparation process is complex and costly, and companies and their CEOs are aware of the power of visual communication, graphs, and colour.

This thesis contributes to the literature on visual communication in sustainability reporting by being the first comprehensive survey of the length and make-up of GRI-compliant standalone sustainability reports. It extends the work on sustainability reporting by focusing on worldwide countries, diverse industries and up to date stand-alone sustainability reports (2014). It contributes methodologically to disclosure measurement in content analysis by taking into the consideration the quantification of disclosures complete by focusing on numbers, narratives, visuals, mixed materials and blank space.

It also updates the sparse prior work on graphs in sustainability reporting and contributes through various methodological extensions and by incorporating an analysis of colour. Additionally, prior studies were primilarly empirical, with little theoretical discussion, this study provides grounding in theories of visual impression management and legitimacy. Finally, this study provides a prelimary investigation into the nature of sustainability report preparation and authorship. It contributes methodologically by considering interviews, which are lacking in the accounting-related visual literature.

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List of abbreviations

ASB	Accounting Standards Board
ARs	Annual reports
CICA	Canadian Institute of Chartered Accountants
DPS	Dividend per share
EPS	Earnings per share
EC	European Commission
FRC	Financial Reporting Council
FS	Financial services
GRI	Global Reporting initiative
IM	Impression Management
IIRC	International integrated reporting council
KFV	Key financial variable
SARSs	Stand-alone sustainability reports
SERS	Social and environmental reports

Chapter One: Introduction

1.1 Background

The production of standalone sustainability reports has grown dramatically over the past two decades; the question is no longer 'who is reporting', but 'who is not'. Sustainability reporting is now a mainstream expectation of companies (KPMG, 2008:14). The GRI guidelines are considered an important factor in driving the growth of standalone sustainability reports (Cho et al., 2015**),** and are widely employed by companies (KPMG, 2013). Similarly, the use of visuals in standalone sustainability reports has increased and can effectively convey relevant messages in accounting information. However, financial reporting regulations, "the Cutting Clutter Panel", and the GRI guidelines on "Multi-stakeholder Process" continue to exclude visual materials from their statements and deliberations. The "Cutting Clutter Panel" perpetuates the former practice of neglecting the role of visuals, whether it is enlightening or obfuscating information **(**Davison, 2015**).**

Standalone sustainability reports are relevant to the stakeholders' decision-making process (Cho et al., 2009**)** and large volumes of visuals are included in both non-GRI compliant (Jones, 2011; Hrasky, 2011; Cho et al., 2012a, 2012b; Duff, 2016; Pesci & Costa, 2014) and GRI-compliant sustainability reports (Boiral, 2013). However, as a means of communication, CSR reporting can be exploited as an opportunity to camouflage corporate activities, conceal negative performance (Cho et al., 2010), and project corporate images that are detached from reality in the context of pictures/photographs (Boiral, 2013). Knebel et al. (2015) highlighted a lack of completeness of GRI 3.1 key performance indicators in A+ assured reports, which is made possible by the flexibility and voluntary nature of the GRI guidelines. In the

absence of such transparency and completeness, sustainability reports tend to resemble marketing tools aimed primarily at improving the companies' image and social legitimacy **(**Cho & Patten, 2007**;** Laufer, 2003**)** and to build or maintain their legitimacy to operate (Suchman, 1995). The GRI guidelines include large volumes of materials that may be difficult to understand and thereby may not conform to the expectations of stakeholders (Galli & Baldon, 2005, cited in Boiral, 2013) and may be used for impression management and legitimacy purposes. As an example, Patten (2012:23) argued that "***the current uptake of voluntary corporate sustainability reporting is that, like visitors who see white tigers at the zoo and presume all is well in the wild, people will see the growth of CSR reporting and assume businesses are becoming more accountable, more sustainable or both***".

This thesis is therefore focussed on the use of visuals, particularly graphs, in GRI standalone sustainability reports and on the latter's propensity to be used for impression management.

1.1.1 Definitions and key issues

Sustainability reporting is defined by the GRI guidelines as **"*the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organisational performance towards the goal of sustainable development*"** (Bartels et al., 2008:20). The issues affecting standalone sustainability reports have become a standard topic in management and accounting (Hahn & Kühnen, 2013**).** In 2011, 95% of companies worldwide published environmental and social information **(**KPMG, 2011**).**

The evidence suggests that CSR-related disclosures are still largely unregulated in both format and content and may be used by companies as tools for legitimacy

(Castelló & Lozano, 2011**;** Deegan, 2002a**;** Hooghiemstra, 2000**)** and impression management purposes (Cho et al., 2012a,2012b**).**

Hooghiemstra (2000:60) defined 'impression management' as **"*a field of study within social psychology studying how individuals present themselves to others to be perceived favourably by others*"**. It is well-documented in accounting literature that the **"*annual reports function has largely changed from a regulated financial document to a presentation-driven impression management tool*"(**Beattie et al., 2008:219) in which narratives, pictures, and graphs are used as framing devices that influence decision making (Tversky & Kahneman, 1986 cited in Davison, 2010).

"The terms 'graphic', 'graph design', and 'graphs' cause frequent confusion in visual accounting in terms of definition. 'Graphics' and 'graphic design' are generally used to designate the attention given to all visual media in an accounting document such as annual reports, including pictures, photographs, graphs, charts, colours and the visual presentation of numbers and words" (Davison, 2013:34).

For documentation purposes, the present study broadly defines visuals to include: two-dimensional static pictures, cartoons, photographs, maps, graphs, logos, and diagrams; two-dimensional moving film and video, and interactive web pages and other multi-media; three dimensional and lived media, such as dress and architecture (Davison, 2015). Visuals are acknowledged to be powerful in terms of both cognition and memory (Tversky, 1974) and as a powerful form of impression management **(**Beattie et al., 2008**;** Davison, 2010**;** Preston et al., 1996). The presence of visual material is known to be widespread and increasing in annual reports (Beattie et al., 2008; Davison & Skerratt, 2007; Lee, 1994) and also widespread in

sustainability reports **(**Boiral, 2013). Visual impression management is an important form of impression management (Beattie & Jones 2008; Cho et al., 2012a, b; Davison, 2010, 2014; Preston, Wright & Young, 1996). Some visuals such as pictures and graphs disclosure remain largely unregulated and unaudited, which provides opportunities for companies to engage in 'consumer engineering' or in public relations exercises (Beattie et al., 2008; Lee, 1994).

For analytical purposes (chapters 6 and 7), this study focusses on visual impression management in graphs. Graphs such as column, line, or pie charts are defined as the visual representation of quantitative data.

To date, very little research has studied visual impression management in sustainability reporting, but the field is starting to develop, with papers being published on pictures, photographs (Boiral, 2013**;** Duff, 2016**;** Pesci & Costa, 2014**;** Rämö, 2011**),** and graphs **(**Cho et al., 2012a, 2012b**;** Hrasky, 2012**;** Jones, 2011**).**

There is no real evidence of how and by whom corporate reports are prepared and impression management choices are made. More specifically, we have no knowledge of why managers choose to use graphs in sustainability reports.

This thesis will focus on the nature and make-up of sustainability reporting, visual impression management with particular reference to graphs and the authorship of sustainability reports.

1.2 Sustainability reporting

In light of its steady increase in many "developed" and "developing" countries, research into environmental and social reporting is important (Thorne et al., 2014). Sustainability reports are an important area to investigate for a number of reasons.

- Firstly, there is no single, universally accepted definition of sustainability reporting. It is a broad term used to describe a company's reporting of its environmental, social, and economic performance. Brundtland (1987:45) defined sustainable development as development that **"*meets the needs of the present without compromising the ability of the future generations to meet their own needs*"** (cited in Hohnen, 2012)**.**

- Secondly, sustainability reports may be employed by companies to portray intangible assets. Today, more than half of company assets are represented not by tangible, but rather by intangible assets such as goodwill, reputation, and human capital.

- Thirdly, sustainability reports enable companies to dedicate any amount of space to the explanation of their corporate responsibility efforts (Malik, 2014). This provides room for impression management and facilitates organisations in maintaining their legitimacy.

Another new approach to corporate reporting that is rapidly gaining prominence is integrated reporting (De Villiers et al., 2014). The international integrated reporting council (IIRC) defines the integrated report as **"*a process founded on integrated thinking that results in a periodic integrated report by an organisation about value creation overtime and related communication regarding aspects of value creation*"**

(cited in De Villiers et al., 2014:20**)**. In the past, environmental and social disclosures made within the annual reports were not integrated with the financial information; however, more recent studies have identified moves towards the integration of environmental, social, and financial and governance information (Hopwood et al., 2010).

In 2014, integrated reporting was conceptualised with a strategic focus on future actions and plans that specifically emphasised value creation, which stood in stark contrast with the original 2010 foci on stakeholders (other than shareholders) and accountability for the impacts of corporate activities (De Villiers et al., 2014**).** This concerns the IIRC, which suggests that integrating reporting is appealing more to capital providers and potential investors (De Villiers et al., 2014).

Similarly, the development of the internet, including online reporting, has opened new and alternative sources suited to communicate and engage with stakeholders (Rinaldi et al., 2014). Internet reporting is cheap, fast, and provides easy information dissemination tools (Marken, 1998, cited in Ihator, 2001) and supports companies in exercising more control over their self-presentational behaviours. It provides companies with an ideal setting for impression management, as discussed by Goffman (1959)**.**

1.2.1 Regulation

Regulation has been a key issue in standalone sustainability reports, as a study showed that **"*while there may be certain requirements to disclose social non-financial information to certain groups (such as specific regulators), around the world, no regulations can be identified that require environmental and social information to be disclosed in the form of a stand-alone report for the general public*"** (Simnett et al., 2009:6**)**. Thereby, CSR reporting requirements vary between companies, industry sectors, and countries (Chen & Bouvain, 2009**;** Morhardt, 2010). A recent survey by KPMG (2013) (see Table 1) reported that, whereas, in some countries, sustainability reports are required by law, in many others, they remain a voluntary practice.

Table 1: 2013 sustainability reporting in selected countries

Countries	Issues of SASRs	Mandatory	Voluntary	Use of GRI guidelines (percentage of G250 listed companies)
South Africa	√	√		100%
Germany	√		√	85%
Japan	√		√	82%
China	√		√	82%
India	√		√	79%
France	√	√		78%
Singapore	√		√	78%
USA	√		√	62%
UK	√		√	61%
Norway	√		√	59%
Indonesia	√		√	58%
Malaysia	√		√	58%
Nigeria	√		√	30%
Source: (KPMG, 2013, pp. 30-34)				

Previous studies found that the voluntary sections of environmental and social information can be deliberately tailored to manage public impressions (Neu et al., 1998**)** and, as noted by Hopwood (2009:437), can be used to "***increase the company's legitimacy in the wider world*****"**. Within the UK, there are few mandatory requirements pertaining to sustainability reporting. KPMG (2013) showed that, in 2013, 91% of UK companies published information on sustainability (see Table 2 in Chapter 2). This datum by far exceeds the percentages of other countries such as the

USA (86%), China (86%), and Germany (67%) although it is lower than the levels found in France (99%), Japan (98%), and Indonesia (95%).

1.2.2 Global Reporting Initiative (GRI) guidelines

In the past, CSR faced major issues as there was no standardization or uniformity in terms of what various companies reported; therefore, in terms of its content, sustainability reporting varied significantly from company to company **(**MacLean & Gottfrid, 2000). The absence of a global mandatory code led to the development of the GRI guidelines.

The Global Reporting Initiative (GRI) was established in the USA in 1997 by the Coalition for Environmentally Responsible Economies (CERES), with the support of the United Nations Environment Programme (UNEP). The first GRI guideline was published in 2000, a second version was released in 2002, a third in 2006, and a fourth in 2013. The creation process was based on exchanges held with different stakeholder groups with the view of improving reporting on environmental performance **(**Markota Vukic, 2015). The GRI guidelines are the de facto standard for meaningful and progressive "triple bottom-line" reporting, which is considered the primary example of sustainability reporting, as it is widely adopted by multinational companies that operate in a variety of industries (Joseph, 2012). The GRI guidelines are a voluntary practice and include several reporting indicators and principles aimed at defining the content of the reports (materiality, stakeholder inclusiveness, and sustainable context), and several indicators suited to define the quality of reporting (completeness, balance, clarity, comparability, and reliability) through a brief set of tests (GRI, 2006). These indicators are perceived to strengthen

the rigor and transparency of sustainability reporting to stakeholders and may also assist users in better navigating information (Sherman, 2012).

In order to increase transparency and encourage companies to implement them, the GRI guidelines encompass different levels of reporting, ranging from A through C, which can be self-declared, GRI-checked, and verified by an external third party. Organisations can declare A+, B+, and C+ if they have utilized external assurance (GRI, 2006). A and B level reports are regarded as being more transparent and to demonstrate more comprehensive management strategies. The difference between GRI levels A and B is that the former includes; (i) full disclosure on all core indicators, and (ii) full disclosure on any applicable sector supplements, as shown in Figure 1. An A-level report is more transparent and GRI-checked than a B-level one. Whereas, the move from level C to B requires a significant investment in management strategies, the move from level B to A requires a significant investment in data collection and analysis.

Figure 1: Differences between levels of reporting

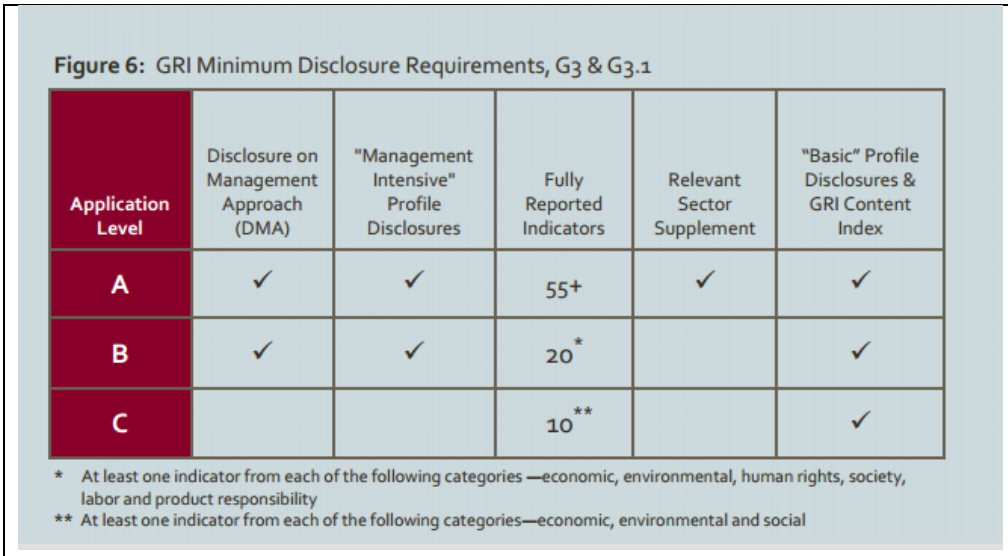


Figure 6: GRI Minimum Disclosure Requirements, G3 & G3.1

Application Level	Disclosure on Management Approach (DMA)	"Management Intensive" Profile Disclosures	Fully Reported Indicators	Relevant Sector Supplement	"Basic" Profile Disclosures & GRI Content Index
A	✓	✓	55+	✓	✓
B	✓	✓	20*		✓
C			10**		✓

* At least one indicator from each of the following categories —economic, environmental, human rights, society, labor and product responsibility

** At least one indicator from each of the following categories—economic, environmental and social

Source (Flynn, 2012:1)

KPMG (2013) found that 78% of reporting companies worldwide referred to the GRI reporting guidelines in their sustainability reports, a rise of 9% from the 2011 KPMG survey. The GRI guidelines also require investment in training, verification costs, report production, desk-top publishing and disclosure choices (through agency or outsourcing), (GR1, 2013).

Although the increasing use of systematic standards such as the GRI has undoubtedly helped to improve the rigor of sustainability reporting (Dando & Swift, 2003), the reliability and transparency of these reports remain controversial. On one hand, studies have suggested that the reporting process does not necessarily assist and improve sustainable development performance or strengthen a company's commitment to sustainability (Cho & Patten, 2007**;** Unerman et al., 2007**).** On the other hand, the disclosed information tends to reflect business interests rather than a genuine concern for accountability (Adams & Zutshi, 2004**;** Laufer, 2003). This

necessitates further research to investigate GRI guidelines and examine whether they improve sustainability reporting practices. It will also identify how many fully compliant with 'A' and 'A+' criteria?

1.2.3 Voluntary reporting issues

An emerging construct in corporate reporting is the growth of voluntary disclosure including the increasing use of narratives, photographs, tables, and graphs. These are often employed by companies as impression management tools. On the one hand, the voluntary disclosure of environmental and social information is important because it provides environmental performance information and influences capital markets (De Villiers & Van Staden, 2011). On the other hand, voluntary environmental and social disclosure is often engaged in for impression management and strategic reasons that have little or nothing to do with any perceived responsibilities or obligations (Deegan & Gordon, 1996**;** O'Donovan, 1999**).**

Davison (2014:34) argued that **"*given the omnipresence of the visual image in all spheres of contemporary society, it becomes pressing for accountants to engage with the evident visualising and rhetoric not only of annual reports, but beyond annual reports into all forms of media*".** Similarly, the susceptibility of voluntary financial graphs to impression management has attracted considerable attention **(**Beattie et al., 2008), and regulation has now advised that care should be taken in regard to their objectivity vis-a-vis the financial results (ASB, 2000). However, the voluntary use of graphs in standalone sustainability has not attracted the attention of regulators, despite being susceptible to impression management, as identified by previous studies (Cho et al., 2012a, 2012b; Hrasky, 2012; Jones, 2011). From the

literature review, it is also not clear what motivates companies to use graphs in standalone sustainability reports.

1.2.4 Sector sensitivity

Sector sensitivity is an important factor driving a company's choice of whether to issue a standalone sustainability report. Highly sensitive sectors are regarded to have significantly higher environmental impacts. They are also expected to face greater social scrutiny and much higher pressure to communicate and report how they are dealing with stakeholders and issues related with environmental and social impacts (Jones, 2011; Ernst & Young, 2013). They are also those **"facing greater exposure to potential environmental regulation and investigation"** (Patten & Crampton, 2004:40**).**

The split between high and low sensitive sectors is a matter of opinion and time. They may change over time. However, the current study uses Jone's (2011) grouping of high versus low sensitive sectors. Highly sensitive sector companies include those from the extractive (mining and petroleum), paper, pharmaceutical, alcoholic beverages, construction, real estate, utility, tobacco, and food products industries. On the other hand, due to the nature of low sensitive sector companies' business operations, it is expected that they have lower environmental impacts and are expected to associate with fewer visible environmental issues; therefore, they are exposed to less stakeholder pressure regarding environmental performance and are not expected to display a high degree of disclosure activism (Brammer & Millington, 2006). Financial service, telecom, retail, and media are regarded as less sensitive sector industries (Jones, 2011; KPMG, 2013).

The KPMG (2013) survey revealed an increasing trend of highly sensitive sector companies issuing standalone reports (KPMG, 2013) as shown in Table 2 (chapter 2). The evidence suggests that highly sensitive sector companies employ CSR reporting more to maintain legitimacy than to provide meaningful assessments of corporate environmental and social performance (Patten & Zhao, 2014). To date and with the exception of Jones (2011), limited research has been conducted on visuals in high versus low sensitive sector standalone sustainability reports. Jones (2011) found that highly sensitive sector companies engage more than low sensitive ones in impression management aimed at giving a relatively more favourable view of their performance.

1.3 Impression management

Impression management is thought to be purposeful, strategic, and dynamic (Sallot, 2002). Its use in annual reports in the context of visuals has been broadly researched (Beattie & Jones, 2008**;** Merkl-Davies & Brennan, 2007, 2011); however, its use in standalone sustainability reports particularly in their visual elements has been little-researched.

Merkl-Davies & Brennan (2007) proposed a framework that divides corporate impression management strategies into two broad categories; concealment and attribution. Cho et al. (2010) supported Merkl-Davies & Brennan's (2007) impression management framework and found that companies with a worse environmental performance appear to manipulate the use of language in their environmental disclosures, at least in part, to conceal their poor performance.

Similarly, Merkl-Davies & Brennan (2007) argued that companies may use visual and structural manipulation to engage in impression management. Hence, just like

corporations appear to manipulate narratives **(**Cho et al., 2010), visuals (Davison, 2010**)**, and graphs (Beattie & Jones, 2008**;** Penrose, 2008**)** in their financial and standalone sustainability reporting **(**Cho et al., 2012a, 2012b**;** Hrasky, 2012**;** Jones, 2011**)**, companies may also use impression management techniques in their GRI-compliant standalone sustainability reports to project a more favourable image of their environmental and social performance.

1.4 Visual impression management

"*It is often erroneously thought that accounting is all about numbers; however, there is compelling evidence that visual media are just as important as numbers in communicating issues relevant to accounting*" (Davison, 2013:14**).** The growth of visuals in business communication has found remarkable application in the medium of annual reports, with some reports even featuring multimedia materials on their front covers **(**Davison, 2007**).** Within corporate reports, the relationship between verbal and visual elements is exceptionally strong, with each verbal element containing a **"visual parallel without which the verbal one cannot be fully understood**" **(**Jameson, 2000:8**).** Companies employ visual techniques within narrative sections to convey impressions of accuracy and honesty (Greenwood et al., 2008**).**

"Some visual forms are two-dimensional and static; for example, static visual presentations of numbers and letters, pictures, drawings, photographs, graphs, charts, diagrams, maps, logos, book formats, and websites. Other two-dimensional visual forms are dynamic; for example, film and video. All these forms may be found in media that are related to or give comment on accounting: For example, annual and other financial reports, management reports, intellectual capital

***statements, newspapers and other press media, recruitment literature, fine art, popular films, professional architecture, investor presentations, and annual general meetings*"** (Davison, 2013:168, 2015:124).

Visuals particularly tables, graphs, and photographs/pictures are memorable and are more easily and accurately remembered (Ruiz-Garrido et al., 2005**).** Davison (2013:58) argued that **"*visualisation can provide important framing and impression management to the reception of information and thus influence decision-making*"** and can portray messages beyond the capacity of accounting statements.

Also, little research has discussed the use of colour in financial reporting; this is in spite of the fact that the presence of colour in our environment is basic, integral, and has the ability to impress and to affect moods and behaviours and may therefore not be neutral in financial reporting (Courtis, 2004) and improve decision-making (So & Smith, 2002). Courtis (2004) reported that companies use more colours when profitability increases. The use of colour is widespread in annual reports and may be employed as an impression management tool. As standalone sustainability reporting is unregulated, one would expect companies to use more colour in a self-serving way in graphs for legitimacy purposes.

Similarly, graphs have the advantage of attracting and holding reader attention and facilitating understanding, saving money in analysing data, highlighting and summarising trends, clarifying relationships, and also breaking down language and culture barriers. Being more user-friendly than tables **(**Beattie & Jones, 1997), graphs also increase the speed of decision making **(**Sullivan, 1988). However, there is robust evidence that organisations use and manipulate graphs through selectivity, measurement distortions, and presentational enhancements (Beattie et al., 2008;

Beattie & Jones, 1992; 1996; 1997; 2001**;** Frownfelter-Lohrke & Fulkerson, 2001) for impression management and legitimacy purposes.

1.5 Authorship

The authorship of annual reports has been substantially neglected by research **(**Davison, 2015**),** although a project on this aspect, aimed at taking a holistic approach to financial communication and funded by Economic and Social Research Council (ESRC) and the Institute of Chartered Accountants in England and Wales (ICAEW), is currently underway at the LSE. John Dawson, chairman of the Investors Relations Society, revealed that there are 150 people behind BP's annual report preparations **(**Athanasakou, 2013**).**

With regard to sustainability reports, Farneti & Guthrie (2009) conducted research into public sector Australian companies to investigate the motivations of the preparers in issuing sustainability reports. They found that sustainability reports were issued in order to communicate with a variety of stakeholders and that they were motivated internally by the CEO of the organisation. Standalone sustainability reports were prepared by environmental units and neither the accounting nor the finance teams were involved. The practical procedures around the preparation of corporate reports has been largely neglected in accounting research (Davison, 2015). Beyond the general knowledge that many authors are involved (for example, directors, accountants, auditors, and creative design companies), we have little evidence of how and by whom corporate reports are prepared and impression management choices are made.

Horner's (2014) unpublished PhD thesis explores whether Australian organisations engage in social and environmental reporting to discharge their social and

environmental accountability to stakeholders. In doing so, it also explores the question of "***to what extent are external consultants involved in the S & ER practices?*"** Horner (2014) found that the degree of involvement of external design consultants in social and environmental reporting varied according to the organisation's budget and to the organisation's representatives' attitudes towards social and environmental reporting. The external designers are responsible for collecting data and copywriting in the process of stand-alone sustainability reports. They are also responsible for the style and content of stand-alone sustainability reports.

1.6 Research questions

The examination of existing literature suggests some significant gaps in our knowledge of the overall length and make-up of GRI-compliant standalone sustainability reports. Previous studies have investigated the length and make-up of annual reports (Lee, 1994; Davison & Skerratt, 2007; Beattie et al., 2008) than GRI-compliant standalone sustainability reports including sector sensitivity. It also contributes methodologically in considering both narratives and visual disclosure (Beattie et al., 2004; Beattie & Thomson, 2007; Unerman, 2000).

The examination of GRI-compliant stand-alone sustainability reports also adds to the current study theortical framework of visual impression management and legitimacy theory. For example, on the one hand, most prior studies have also argued that the GRI guidelines are comprehensive and useful framework in reporting on environmental and social activities (Dando & Swift, 2003; Sherman, 2012) On the other hand, prior studies have argued that the GRI guidelines have not improved the transparency and accountability dimensions of the environmental and social activities and are being used symbolically for impression management and

legitimacy purposes (Adams & Zutshi, 2004**;** Laufer, 2003). Prior study also argued that high sensitive sectors employ CSR reporting specifically visuals to maintain legitimacy than to provide useful environmental and social performance (Patten & Zhao, 2014). This suggests the first set of research questions:

Standalone sustainability report length and make-up

- What is the distribution of the length and make-up of the stand-alone sustainability reports published by GRI-compliant companies (numbers, narratives, visuals, mixed materials, and blank space)?
- Do length and make-up differ between highly sensitive and less sensitive sector companies in GRI-compliant stand-alone sustainability reports?

Prior studies also reflect that the use of graphs in annual reports may provide incremental information, facilitate understanding, save money in analysing data and highlighting and summarising trends, clarify relationships, and also break-down language and culture barriers. Conversely, the unregulated and unaudited nature of graphs may also cause them to be used as impression management tools suited to portray corporate performance in a more positive light (Beattie & Jones, 1992; 2000; 2001; 2008; Courtis, 1997) and in standalone sustainability ones (Cho et al.,2012a, 2012b; Hrasky, 2012; Jones, 2011). However, prior studies have not investigated the use and impression management of graphs in GRI-compliant standalone sustainability reports and sector sensitivity including the use of colours in graphs. Thus, this suggest the second set of research questions:

Graph usage

- What is the graph usage in GRI-compliant standalone sustainability reports?
- Does graph usage differ between highly and low-sensitive sector companies by GRI-compliant standalone sustainabilty reports?
- What colours are used for graphs by GRI-compliant standalone sustainability reports?
- Is there evidence that graphs are being used for impression management by GRI-compliant standalone sustainability reports?
- Is there a greater degree of impression management practiced by high sensitivity companies by GRI-compliant standalone sustainability reports?

The examination of existing literature also suggests some significant gaps in our knowledge of the preparation of corporate reports. Most previous studies have made deductions about preparers' attitudes from the published reports rather than gathering data from the preparers themselves. This suggests the third set of research questions:

- How are sustainability reports prepared within GRI-compliant companies?
- Why do companies use the GRI guidelines and how useful are these guidelines?
- Why does management choose to use visuals, particularly graphs and colours?

Given the extensive academic literature on graph manipulation, we would expect preparers to be aware of the general research findings in the area and hence would take the general issue of manipulation into consideration when preparing graphs for SASRs. However, there is no actual research evidence to support this expectation.

This suggests the second research question in the context of the preparation of the stand-alone sustainability reports:

- Are preparers aware of visual impression management through the use of graphs (including choice of colours)?

1.7 Summary contribution

Although relatively little analysis has been carried out of the full contents of annual reports (Lee, 1994; Davison & Skerratt, 2007; Beattie et al., 2008), research into visual impression management enacted through photographs/pictures in annual reports is developing into a mature field (Davison, 2015). Research into visual impression management in sustainability reporting is restricted to a handful of papers, including two that have been published while this thesis was being researched.

The existing work on visual materials in sustainability reporting consists of one paper that focusses on the methodology of content analysis by comparing narratives and visuals (Pesci & Costa, 2014), another study that examines the quantitative, narrative, and visual content of sustainability reporting across a range of media (including websites and recruitment material) (Duff, 2016), two papers that focus on photographs and pictures (Rämö, 2011; Boiral, 2013), one study that compares pictures and graphs (Hrasky, 2012), and three papers that specifically examine the use of graphs (Jones, 2011; Cho et al., 2012a, 2012b). One paper (Farneti & Guthrie, 2009) considered the preparation of sustainability reports, but without giving particular attention to the visual elements.

These prior papers were positioned in a variety of geographical contexts: Australia (Farneti & Guthrie, 2009; Hrasky, 2012), the UK (Jones, 2011; Duff, 2016), the US (Cho et al., 2012a), the UK, the USA, France, Germany, Italy, and Spain (Cho et al., 2012b), Italy (Pesci & Costa, 2014). They also examined a variety of sectors: mining and energy (Boiral, 2013), professional accounting (Duff, 2016), the public sector (Farneti & Guthrie, 2009), and banking (Pesci & Costa, 2014).

This study extends the existing research in a number of ways. It updates prior papers (that used reports dating from 2005-2009) by considering 2014 standalone sustainability reports, it takes GRI-compliant standalone sustainability reports from across the world and conducts a comprehensive analysis of their make-up. It then focusses on visual impression management through graphs, adding to the existing research in the various important aspects detailed below. Finally, it considers the authorship of standalone sustainability reports. It therefore involved time-consuming manual archival work combined with rare interviews of report preparers.

It makes three key contributions:

- The first set of research questions (1.6) focuses on the length and make-up of GRI-complaint reports into numerical, narrative and visual elements; as such, it scopes the context, nature, and proportions of visual impression management. It thus adds to the existing research on the nature of general annual report contents (Lee, 1994; Davison & Skerratt, 2007; Beattie et al., 2008) and adds to the work on standalone sustainability reports of Duff (2016**)** and Pesci & Costa (2014). It also contributes methodologically in considering both narrative and visual disclosure **(**Beattie et al., 2004**;** Beattie & Thomson, 2007**;** Unerman, 2000**).**

- The second set of research questions extends the existing research on graphs in sustainability reporting by:
    - being grounded in theory of impression management;
    - examining recent (2014) worldwide standalone sustainability reports;
    - considering the GRI guidelines' context;
    - considering sector sensitivity;
    - deploying an under-used measure of graph distortion;
    - considering the use of colour in graphs.

This, in turn, adds to the work done by Jones (2011), Hrasky (2012), and Cho et al. (2012a, 2012b).

- The third set of research questions provides a preliminary investigation into the nature of sustainability report preparation and authorship, which appears to have almost never been addressed before.

1.8 Organisation of this thesis

This thesis is organized as follows. Chapter 2 reviews the relevant prior literature. Chapter 3 outlines the theoretical framework. Chapter 4 discusses the research methods. Chapter 5 examines the length and make-up of standalone sustainability reports. Chapter 6 analyses the use of graphs in GRI-compliant standalone sustainability reports. Chapter 7 analyses impression management through graphs published in GRI-complaint standalone sustainability reports. Chapter 8 investigates the authorship of standalone sustainability reports. Chapter 9 concludes with the key findings, contributions, recommendations, and directions for future study.

Chapter Two: Insights from existing studies

This thesis examines visual impression management in sustainability reporting. It therefore reviews the existing research conducted in five main areas: (i) sustainability, or environmental and social reporting; and (ii) GRI guidelines (iii) authorship and preparation of standalone sustainability reports (iv) impression management and (v) visual impression management in standalone sustainability reports.

Over the past two decades, research into environmental and social reporting has rapidly developed from a small field to a major area of accounting research. This review does not attempt to be comprehensive, but to merely survey the main areas of importance for this thesis; these are grouped under 'The growth of sustainability reporting', 'The benefits of sustainability reporting', and 'The criticisms to sustainability reporting'.

Similarly, much research has been devoted to the area of impression management in financial reporting. Again, this review does not aim to be comprehensive, but to cover the major papers in the fields relevant to this thesis, which have been grouped under 'Impression management in corporate reporting', 'Visual impression management through pictures/photographs, graphs, and colours', and, finally, 'Visual impression management in sustainability reporting'.

2.1 Sustainability reporting

2.1.1 The growth and practice of sustainability reporting

Corporate Social Responsibility can be considered to be one of the first initiatives to have contributed to sustainability **(**Lozano, 2009). In the literature, there is no clear consensus as to when the concept of Corporate Social Responsibility (CSR) originated.

One of the first academics to explicitly mention CSR was Dodd (1932). Since then, several CSR discussions and debates have arisen. This has mainly resulted in two divergent interpretations of the concept. In the USA, CSR is usually considered a synonym for corporate philanthropy **(**Smith, 2003). In Europe, CSR tends to be more open and flexible, encompassing, in general, environmental and social aspects, and it thus tends to be less controversial than in the USA. Initially, the idea of CSR reporting was used by large corporations (Kolk, 2008). Specially, at the beginning of the process, corporations began to produce special "social reports" published specifically by businesses from Western Europe (Fifka, 2013). In the years 1990-2000, the focus shifted from social to environmental reporting. The reason for this was the importance of environmental aspects in production and the growth of the sustainability development concept. After 2000, both dimensions (environmental and social) were merged in the concept of non-financial reports, which had a broader remit and also included economic issues (Gebauer & Hoffmann, 2009; Vormedal & Ruud, 2009).

Sustainability reporting can also take different forms. It most typically involves either the production of information within a company's annual report (including both voluntary and mandatory information) or the production of a standalone

document that is most usually, but not always voluntary (Thorne et al., 2014**)**. Sustainability reports are known by many different names, including "sustainability reports," "triple bottom line reports", "environmental reports", "citizenship reports", and "sustainabile development reports", and represent separate compilations of information about corporate environmental and social actions (Dilling, 2009, cited in Thorne et al., 2014)**.**

Today, as shown in (Table 2), standalone sustainability reporting is employed by companies worldwide (Ballou & Heitger, 2006**;** Erusalimsky et al., 2006**)**; the key papers on sustainability reports are summarised in Appendix 1. The social impact of organisational operations has become an increasingly prominent and high profile issue in many countries and industries **(**Jenkins & Yakovleva, 2006) and one that is increasingly focussed upon by company stakeholders (Cormier et al., 2004**;** Epstein & Freedman, 1994**).**

2.1.2 Standalone sustainability reports

Sustainability reporting has become so prominent that many companies devote considerable efforts and time to publishing their extended performance information including any environmental and social aspects in standalone dedicated reports (Cerin, 2002**;** Unerman et al., 2007).

Kolk (2003**)** showed that companies reporting on non-financial issues had increased to 45% of the largest 250 multinationals in the 2001 rankings, compared to 35% in 1998. The highest growth in sustainability reports had taken place in Japan, France, and the UK, followed by Germany. On the other hand, US sustainability reports were slightly decreasing in the trend analyses. Similarly, Campbell (2004) studied the CSR reports of the ten UK companies cited in Idowu & Papasolomou (2007)

between 1974 and 2000, and found that all companies had showed an increase in their use of CSR reports. Idowu & Towler (2004) found that 61% of the UK's small and medium-sized companies were involved in local community matters. KPMG (2011) found that nearly 95% of the largest 250 companies in the world were publishing information in sustainability reports. This represented an increase of more than 14% over the 2008 KPMG survey. A more recent survey conducted by KPMG (2013) on 41 countries found that 93% of those companies had issued standalone sustainability reports. Those countries, which had been selected based on GDP index **(**GDP, 2013**),** are arranged in descending order in their use of standalone sustainability reports in Table 2.

Table 2: Worldwide publishing of standalone sustainability reports by country

Country	2011 (%)	2013 (%)
France	94	99
Japan	99	98
Indonesia	N/A	95
UK	100	91
China	83	86
USA	83	86
Canada	79	83
Australia	57	82
Netherland	82	82
Brazil	88	78
Italy	88	78
India	20	73
Indonesia	66	56
South Korea	48	49
Source: KPMG (2013, p.58)		

The publishing of standalone sustainability reports in France, China, the USA, Canada, Australia, India, and South Korea had increased from 2011 to 2013, whereas, in Japan, the UK, Brazil, Italy, and Indonesia it had decreased between 2011 and 2013. However, India had registered the greater increase in standalone

sustainability reports published from 20% in 2011 to 73% in 2013 followed by Australia from 57% in 2011 to 82% in 2013.

Similarly, a survey conducted from 579 respondents by Ernst and Young (2013) found that 95% of the companies had issued information in sustainability reports. This rise in standalone sustainability reporting is potentially a positive trend. As noted by Unerman et al. (2007:3), **"*just as conventional management and financial accounting has been a powerful tool in the management, planning, control and accountability of the economic aspects of organizations, broader techniques of sustainability accounting and accountability*"** can be powerful tools for addressing the impacts of corporate environmental and social actions. At least some audiences appear to believe that the reporting is indeed about greater transparency and accountability. For example, Ballou et al. (2006:65-66) noted that many companies were creating **"*transparent reports that provide accurate and reliable data, as well as fair picture of overall performance across the 'triple bottom line' of environmental, social and economic performance*."**

Standalone CSR reports are viewed as providing useful information for investors to evaluate long-term corporate sustainability **(**Cho & Patten, 2013) and as powerful tools for communicating with stakeholder groups in regard to social exposure (Dingwerth & Eichinger, 2010**)**. Managers adopt various means to convey environmental and social information, such as annual (Cerin, 2002) and non-financial reports (Hooghiemstra, 2000**).** In 2000, it was reported that 65% of companies from Fortune Magazine's Global 500 list used the internet to report on environmental and social issues (Gallhofer et al., 2006**;** Jenkins & Yakovleva, 2006**),** and stakeholders are increasingly using the information on corporate sustainability reporting published on the internet (O'Dwyer & Owen, 2005**).** Due to its global

reach, versatility, interactive capacity, and speed **(**Jensen & Xiao, 2001), the internet is heralded as having the potential to revolutionise accounting and reporting.

Similarly, KPMG (2011) found that standalone CSR reports in PDF format were increasing in popularity. Most organisations (approximately 40%) incorporated a special purpose corporate sustainability reporting website to communicate with their stakeholders. A growing number of companies had developed mobile applications (such as iPad Apps) to provide stakeholders with even greater access (KPMG, 2011). Social networking sites such as Twitter and Facebook have also become well-used means to communicate sustainability issues (Commission, 2013**)**.

Furthermore, with the worldwide growth of socially responsible investment funds, investment rating systems such as the Dow Jones Sustainability Index have put financial pressure on companies to disclose their environmental and social information (Devinney, 2009**;** Waddock, 2008). CSR ratings and index memberships can promote improved stakeholder relationships (Cooper & Owen, 2007) and lead to inclusion in social responsibility investment funds **(**Cho et al., 2015). Additionally, the increased criticisms of frauds, short-termism, self-interest driven approaches, excessive management remuneration, and environmental scandals have shown ever more clearly the negative corporate impacts on society and the environment (Kilian & Hennigs, 2014**)**. This has resulted in an increased need for environmental, social, and economic information **(**Aras & Crowther, 2009) and has raised stakeholder demand for corporate transparency and complete information on CSR **(**Kolk, 2008**).**

2.1.3 Voluntary reporting

The extent of voluntary information disclosed in corporate annual reports has increased over the last two decades as managers have exploited the annual report's potential as a major public relations and promotional opportunity (Lee, 1994). As an example, Preston et al. (1996:5) investigated the voluntary disclosure of information in annual reports and found that **"*today, annual reports are widely recognised as highly credible, multipurpose documents with the power to communicate important corporate messages. Every element covers the message; from the figures it presents to the paper on which it is printed*".** Similarly**,** Beattie & Jones (2008:182) argued that the **"*corporate annual report has for many modern companies been transformed from rather a dull financial statement to a colourful marketing and public relations document in which the financial statements are ignored for being too technical an 'appendix"*.**

Valentine (1999, cited in Beattie & Jones, 2008) argued that, by 1999, 94% of the London stock exchange (FTSE) employed external design consultants for the purpose of impression management in the voluntary sections of the annual reports, and to direct reader attention to specific dimensions of their organisational performance (Hooghiemstra, 2008; Lee, 1994).

Gray (2001) argued that **"*the quality of attestation to environmental and social reports is woefully poor*"** (Gray, 2001:13, cited in Laufer, 2003**).** After reviewing ethical reporting in the UK, Stittle (2002:349) argued that **"*there are significant distortions and omissions of information concerning ethical issues in current UK reporting systems***". Aboody & Kasznik (2000) also found that CEOs of companies

with scheduled awards make opportunistic voluntary disclosures that maximise their stock option compensations.

Similarly, Suijs (2005) found that bad information is kept private, while good information is publicly disclosed. Companies that have achieved a better environmental performance due to their adoption of unobservable proactive environmental strategies have an incentive to use disclosure to signal such strategies to investors and other relevant stakeholders (Cho et al., 2012:48-49). The Financial Accounting Standards Boards (FASB) is also concerned with the quality of discretionary information in business reports. In 2001, the FASB issued a Steering Committee Report entitled, 'Improving business reporting: Insights into enhancing voluntary disclosure'. If used for impression management, voluntary information has the potential to impair the quality of financial reporting, which can result in capital misallocations. Thus, managers' motivations and strategies for voluntary information remain an important area of accounting research **(**Leung et al., 2015).

2.1.4 Sector sensitivity

Empirical studies have shown that environmental and social activism varies across industries (Gray et al., 1995**;** Hackston & Milne, 1996**)**. For instance, at the industry level, KPMG (2013) investigated both low and high sensitivity sectors, and found that companies from those industries that have the greatest impact over in and over society and the environment (such as certain sectors of the energy and natural resources industries) showed a higher commitment to reporting than those from sectors that may be perceived as having a lower environmental impact (see Table 3).

Table 3: Global publishing of SASRs by industry sector by G250 listed companies

Industries	2011 (%)	2013 (%)
Mining	84	84
Utilities	71	79
Electronic and equipment	69	78
Automotive	78	77
Forestry, pulp and paper	84	77
Communications and media	74	75
Oil and Gas	69	72
Food and Beverage	67	72
Finance, insurance and security	61	70
Metals, engineering and manufacturing	61	69
Pharmaceuticals	64	69
Transport	57	69
Construction and Building materials	65	66
Chemical and Synthetics	68	65
Trade and Retail	52	62
Source: KPMG (2013:27)		

Highly sensitive sector companies make wide use of their voluntary publishing of environmental and social information to offset the potential for adverse selection caused by a lack of disclosure, particularly when the markets are aware of the existence of bad news (Verrecchia, 1983**).** These voluntary disclosures enable companies to inform stakeholders of their sustainability performance; to distinguish themselves from poor-performing competitors and thus gain an edge in the market (Boiral, 2013), influence credit rating and media outlets, and reduce agency problems. Highly sensitive companies actively shape the way in which their stakeholders view them.

KPMG (2013) argued that a company with greater generic visibility possesses organisational characteristics such as high reputation, status, and prominence that make it more widely known in society and more closely associated with highly visible environmental issues such as global warming and water pollution. Therefore, highly sensitive companies face greater scrutiny of their environmental and social records by NGOs (Fortanier et al., 2011**).** As an example, Deegan & Gordon (1996) examined the annual reports published by a sample of companies during the 1980-1991 period. They found that corporate environmental disclosures were self-laudatory and that there was a positive relationship between the environmental sensitivity of the industry sectors and the level of corporate environmental disclosure**.** Jones & Slack (2009) conducted a longitudinal study of the standalone sustainability reports published by 20 UK companies from 2004 to 2008. The companies were drawn equally from high and low environmental impact sectors. Firstly, they described and documented the use of the environmental targets employed as part of the environmental disclosures and tested whether high environmental impact companies had policies distinct from those of low

environmental impact ones. They concluded that, in general, high impact companies employed more targets per company (2.9 compared to 2.4 in low impact companies), and that high impact companies appeared to be presenting more detailed and negative information.

2.1.5 Research into the use of guidelines

The GRI reporting framework is widely acknowledged as a leader in the international standardisation of sustainability reporting (Bebbington et al., 2012) and is best known for driving the growth of standalone sustainability reports (GRI, 2006). The GRI guidelines tend to be comprehensive since they contain vast ranges of measures for environmental, social, and economic performance (GRI, 2013**).**

The GRI claimed that, as of early 2004, almost 400 companies from various countries referred to its guidelines in their sustainability reports. This included companies such as ABB, British Airways, General Motors, and IBM (GRI, 2006). Waddock (2008) found that, as of 2008, almost a quarter of the S&P 500 companies and some 1,500 companies in total had voluntarily adopted the GRI guidelines for their ESG reporting. However, whether the reports were A or A+ criteria are unknown. Similarly, in 2010, over 1800 companies had publicly declared their use of the GRI guidelines. The same year, it was reported that 95% of companies on the Dow Jones sustainability Index (DJSI) Super Sector Leaders list had used the GRI guidelines for their sustainability reporting. In total, 78% of the companies listed on the FTSE 4 Good 100 and 70% of the companies on the global 100 most sustainable companies had used the GRI guidelines to report their environmental and social information (Hohnen, 2012). KPMG (2011) reported that 82% of the G250 (Global fortune list) and 69% of the N100 (the 100 largest companies by revenue from 34

countries) companies were aligned to the GRI reporting standards. A more recent survey by KPMG (2013) found that 82% of the G250 companies that reported on sustainability reports referred to the GRI guidelines, as opposed to 78% in 2011.

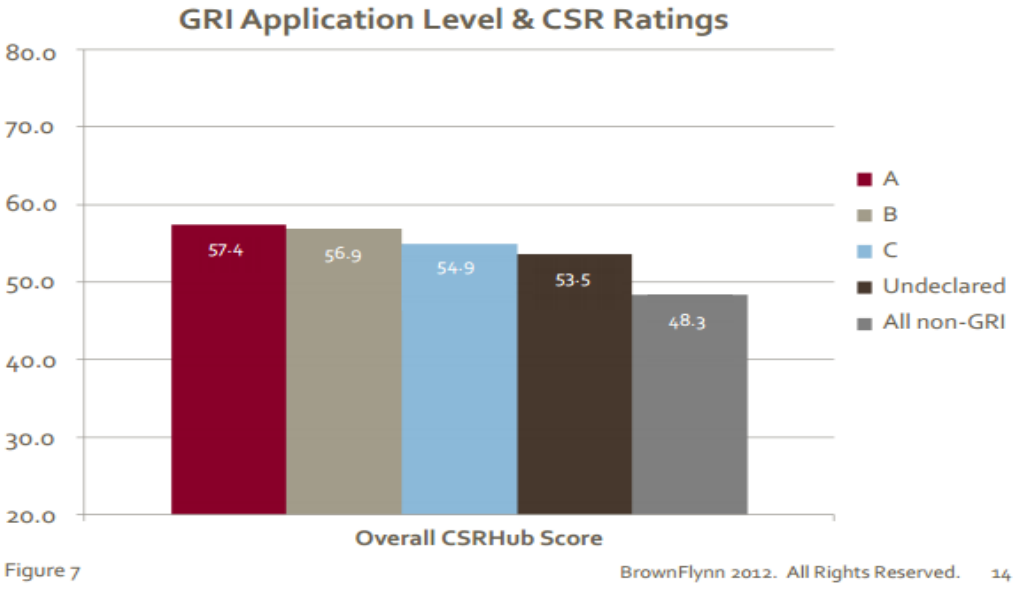
Similarly, Ernst & Young (2013) reported that more than two-thirds of their respondents had indicated that their organisations employed the GRI guidelines in the preparation of their reports.

A survey 'Carrots and Sticks' published by UNEP, GRI, KPMG and the Centre for Corporate Governance in Africa (2012) and covering 45 countries, found that the amount of policy and regulation had markedly increased. This included a notable increase in the numbers of mandatory reporting measures. For example, in 2006, 58% of policies were mandatory; in 2012, more than 72% of the 180 policies in the 45 reviewed countries were found to be mandatory. Europe, the USA and Japan had levelled off in using the GRI guidelines, while Brazil, South Africa, and the new EU member states had shown growth in their adoption rates. A more recent study by Thorne et al. (2014) found that 71% of the companies used the GRI guidelines. Most of the GRI reporters were large multinational companies that operated mainly in high sensitivity sectors such as oil and gas, automotive, mining, chemicals and synthetics, forestry, and paper (Brown et al., 2009**).**

In addition, companies that follow the GRI reporting guidelines appear to have higher levels of commitment to CSR than those that do not follow them **(**Guenther et al., 2006**;** Michelon et al., 2015). For example, a more recent study conducted by CSRHub (2012) analysed how well GRI reporters at various application levels performed on more than 130 global sustainability ratings and rankings, the scoring ranged from zero (low) to 100 (high). The 12 sub-category scores were combined

into four category scores based on "Community", "Employees", "Environmental", and "Governance". The data included 647 GRI reporters that represented more than 80% of the largest public companies worldwide that issued GRI standalone sustainability reports. The results revealed that, overall, companies with an application level of B or higher had higher average scores compared to non-GRI compliant companies. As the application level went up, so did the average CSR ratings, with significant increases from C to B ranging from non-GRI to undeclared (Flynn, 2012) as shown in (Figure 2):

Figure 2: CSR ratings



Source: (Flynn, 2012:1)

On the other hand, research conducted by the Vienna University of Economics and Business Institute for Human Resources investigated 131 GRI reports of Forbes 250 companies. They focussed on nine labour and six human rights indicator protocols,

analysing which indicators had been fully reported compared to the claims made by companies in their GRI content indexes. For the labour indicators, 86% of companies claimed they reported but, in reality, only 11% actually did. For human rights, 62% of companies claimed they reported but only 20% did (GRI, 2013**).** Similarly, Transparency International Germany recently analysed the GRI 'A' and 'A+' sustainability reports of 21 major German companies, and compared their content indexes with the actual information provided. The results revealed that only 18 indicators had been fully reported in contrast to 72 classified as such in the GRI context indexes. The result also shows one report that fully complied with its application level 'A' declarations. The in-depth research findings of the Centre for Research on Multiple Corporations (SOMO) and of the European Federation of Public Service Unions (EPSU) on the sustainability reporting of 20 major European electricity companies showed that there were ***"significant discrepancies between what electricity companies claim they are reporting on and the information they actually provided in their sustainability reporting*****"** (GRI, 2013:5**).**

2.1.6 The benefits of sustainability reporting

CSR can have a positive impact by providing better access to valuable resources (Waddock & Graves, 1997**)** enabling a better marketing of products and services **(**Moskowitz, 1972), and creating unforeseen opportunities **(**Fombrun et al., 2000). For example, Toyota hybrid cars have cornered a 70% share of the US hybrid car market as a result of the company's commitment to the environment **(**Rowley, 2009).

Companies also regard sustainability reporting as part of their strategy to build value by creating trust among their stakeholder groups. This was identified by Deegan & Unerman (2011:6), who stated that ***"The broader objective driving any particular***

organization to undertake CSR and sustainability reports can range from ethically motivated desire to ensure that the organization benefits, or does not negatively impact upon, society and the natural environment through to an economically focused motive to use environmental and social reporting and CSR to protect or enhance shareholder value".

Furthermore, a study conducted among ten entrepreneurs who had developed successful new ventures found that all organisations had benefitted from the disclosure of CSR information by growing in size and establishing their presence in the community (Joyner & Payne, 2002**).** The issue of CSR may increase demand for products and services and/or reduce consumer price sensitivity (Dorfman & Steiner, 1954**;** Sen & Bhattacharya, 2001**)** and even enable companies to develop intangible assets (Hull & Rothenberg, 2008**;** Waddock & Graves, 1997**).** Ernst & Young (2013) also revealed that more than 50% of the respondents who were issuing sustainability reports claimed that those reports had helped improve corporate reputations. This is consistent with Thorne et al.'s (2014) study, in which 87% of the respondents agreed that they were issuing sustainability information to enhance their companies' reputation.

Ernst &Young (2013) found that more than 30% of their respondents had stated that issuing sustainability reports had increased employee loyalty, and 88% had expressed the belief that sustainability reports were helping to make their organisations' decision-making processes more efficient in the context of innovation, reduce waste, and gain insights into possible growth areas. Sustainability reporting may also help companies to create, improve, or repair a brand, signal trustworthiness and maintain customer license to operate. Companies engaging in CSR initiatives

can simultaneously increase their success, reduce any negative social influence, and benefit society at large.

Similarly, a survey conducted by Hill & Knowlton's (2002) cited in Simms (2002) corporate reputation watch in Europe, the UK, and the USA found that 88% of the British businesses believed that social responsibility would become essential for the recruitment and retainment of talented employees (Simms, 2002**).** This is consistent with Ernst &Young's (2013) findings that CSR reporting can inspire current employees and serve as a powerful differentiator in a competitive job market. A reputation for responsibility and disclosure can help recruiting efforts.

CSR activities can lead to better firm reputation with customers, improving a firm's reputation with regulators to receive more favourable treatment. This in turn can lead to increase in revenue and profit. CSR activities can also assist companies in increasing their popularity and hence their share prices. A survey by Ernst & Young (2013) found that issuing environmental and social information may result in an average of 4.4% increase in share price. Goss & Roberts (2011) argued that banks are more willing to consider soft financing for companies with better CSR records. This is consistent with Ernst & Young (2013) survey, which reported that companies ranked highly for sustainability have Kaplan Zingales Index scores that are 0.6 lower than those of low sustainability companies (a lower score signifies fewer capital constraints).

2.1.7 Criticisms of sustainability reporting

The social accounting literature has mostly expressed critical evaluations of the shortcomings of CSR reporting in that, while accountability is very obviously needed, it is not clear whether voluntary reporting is actually increasing accountability. Many critics of CSR accounting trends perceive reporting as little more than a public relations tool designed to maintain the approval of crucial stakeholders for the survival of the business (Unerman et al., 2007) or to manage its political and media visibility (Thorne et al.,2014). While the use of indicators for sustainability reporting is growing, the lack of standardisation and verification raises questions regarding the completeness and accuracy of the claims (Adams & Frost, 2008**).**

Given that publishing standalone sustainability reports is voluntary, there are significant opportunities for using it as a symbolic practice (Merkl-Davies & Brennan, 2007). Despite the efforts made by the GRI to support completeness through its guidelines, standalone sustainability reports are lacking in it (Adams, 2004**;** Ball & Bebbington, 2008**).** Adams (2004) revealed that sustainability reporting was not sufficiently transparent as it did not cover both the companies' positive and negative performances. This confirmed the findings of previous studies, that had found that worse performing companies manipulated the language they used in their disclosures to portray a better performance than was warranted or to distract the readers' attention from any negative organisational performance **(**Cho et al., 2010**).** CSR reports do not always provide the complete data sought by their readers, which, in turn, intensifies the problem of the evaluation and comparison of the related results achieved by a company **(**Hąbek & Wolniak, 2016**).**

Hence, the structure of the reports' content, including the type, quantity, and quality of the information contained therein is at the discretion of the companies' decision makers (Kuruppu & Milne, 2010**).**

A more recent survey conducted by the KPMG (2013) with the senior representatives of G250 companies sought to assess the quality of the latter's CSR reporting against seven criteria based on current GRI reporting guidelines and the KPMG professionals' views on leading reporting practices. The data were collected from 14 industry sectors represented in the G250. In KPMG's (2013) analysis, the average quality score attained by the participating companies was 59 out of a possible 100, as shown in (Figure 3).

Figure 3: Reporting quality based on seven key criteria

Table 2:
Average quality of G250 reports by sector

Sector	Average score (out of a possible 100)
Electronics & computers	75
Mining	70
Pharmaceuticals	70
Utilities	65
Telecommunications & media	65
Transport	64
Automotive	64
Food & beverage	59
Finance, insurance & securities	58
Chemicals & synthetics	58
Oil & gas	55
Trade & retail	55
Metals, engineering & manufacturing	48
Construction & building materials	46

Source: KPMG International, The KPMG Survey of Corporate Responsibility Reporting 2013, December 2013

Table 3:
Average quality of G250 reports by country

Country	Average score (out of a possible 100)
Italy	85
Spain	79
UK	76
France	70
Australia	70
Netherlands	69
Germany	68
Switzerland	63
South Korea	60
Japan	55
US	54
China (incl. Hong Kong)	39

Note: Table includes only those countries with five or more companies in the G250 that report on CR.

Source: KPMG International, The KPMG Survey of Corporate Responsibility Reporting 2013, December 2013

Table 4:
Average quality of G250 reports by crite

Quality criteria	Average s (out of a possible
Targets & indicators	
Materiality	
Strategy, risk & opportunity	
Transparency & balance	
Governance	
Stakeholder engagement	
Suppliers & the value chain	

Source: KPMG International, The KPMG Survey of Corporate Responsibility Reporting 2013, December 2013

Source: (KPMG 2013:39)

KPMG (2013) reported that the electronic sector led the G250 in terms of the quality of its sustainability reporting with an average score of 75; this was followed by mining (70) and pharmaceuticals (70). The lowest scoring sectors were oil and gas, trade and retail, metals, engineering and manufacturing, constructions and building materials. European companies were reported to hold a significant lead over other regions in reporting quality with an average score of 71, compared with 54 in America and 50 in Asia Pacific. Italy, Spain and the UK had the highest average

scores, reflecting the relative maturity of their reporting. The UK scored 76; Italy 85, and Spain 79.

In summary, KPMG (2013) concluded that, in sustainability reporting, quantity does not always equate to quality. For example, some companies reported on their CSR activities, but provided no evidence of robust reporting processes and strategic objectives. This indicates that there is significant room for overall improvement in the quality of sustainability reports. Sustainability reports provide companies with a platform to disclose their environmental and social information in ways that manage external impressions. It is clear that companies predominantly engage in environmental and social disclosure to reduce any information asymmetries with the market. However, they do so to enhance or maintain their legitimacy within the social and political spheres (Cho, et al., 2012**).**

2.1.8 Problems with the guidelines

Fortanier et al. (2011**)** and Hahn & Lülfs (2014) reported that, in spite of the GRI guidelines' standardization efforts, significant differences remain between companies from different institutional environments with regard to the content and quality of sustainability reports.

Adams & Kuasirikun (2000:19) stated that **"*voluntary guidelines specifying issues that companies should report on are not solving the incompleteness problems. In fact, there is a danger that they provide organizations with a means of legitimizing poor performance, allowing them to get away with omitting material impacts on issues not covered in the guidelines*".** Hedberg & Von Malmborg (2003) revealed that the GRI guidelines were being employed by Swedish companies to seek organisational legitimacy and used more for internal development than for external

communication. Bebbington et al (2004, cited in Moneva et al., 2006) found that the GRI guidelines were being used by companies as a new tool for the legitimisation of management decisions and actions.

NGOs have also shown **"*real concerns about the potential for companies espousing sustainable rhetoric, to use the GRI to engage in 'green wash' for the marketing benefits it would give their companies*"** (Laufer, 2003:259**)**. Similarly, Hess (2007, 2008) reported that voluntary initiatives such as the GRI guidelines alone are insufficient in achieving corporate accountability because reporting is driven by strategic considerations. GRI guidelines do not provide guidance for the implementation of data collections, informing and reporting systems, or procedures for preparing reports (Dixon et al., 2005**).** The GRI guidelines have been regarded as being reductionist and as promoting the analysis of dozens of indicators that neglect any interactive effects and do not clearly relate to each other or to the state of the socio-ecological system from which they are drawn. In practice, the GRI guidelines have been regarded as being inward-looking and employed for other agendas, such as to promote 'public relations'. Tort (2010, cited in Boiral, 2013) argued that the GRI guidelines do not give any indication of how or at what point one's classification moves from unsustainable to sustainable.

Norman & MacDonald (2004) argued that the adoption of the GRI guidelines would lead companies to adhere to minimum standards and to emphasise compliance, rather than to strive for excellence. Others argued that the GRI guidelines are a smokescreen for unsustainability (Moneva et al., 2006**;** Smith & Lenssen, 2009). The GRI guidelines most widespread use is to avoid the lack of verification in reporting and to alleviate any criticism of CSR practices **(**Oeyono et al., 2011).

Patten (2012:22) argued that **"*even when GRI guidelines are being followed, reporting may not yield the transparency and comparability that would seem to underlie meaningful sustainability reporting*"**. Sustainability reporting has been missing 'the big picture' and runs the risk of misinforming decision-makers.

KMPG (2008:28) concluded that **"*At the same time, the problem may arise from the lack of an established means of assessing sustainable information in reports. It might be said that the reports provide 'too much information, too little meaning"***

This suggests that the GRI guidelines have not overcome the problems of accountability and transparency and are being used by companies as an impression management tool for legitimacy purposes.

2.1.9 Preparers' motives

The preparation of corporate reports has been largely neglected in accounting research (Davison, 2015). Beyond the general knowledge that many authors are involved (for example, directors, accountants, auditors, and creative design companies), we have little evidence of how and by whom corporate reports are prepared and impression management choices are made. With regard to sustainability reports, Farneti & Guthrie (2009) investigated the motivations of preparers of sustainability reports issued by Australian public sector bodies. They found that sustainability reports were issued in order to communicate with a variety of stakeholders and that their motivation came generally from the chief executive officer of the organisation. Stand-alone sustainability reports were prepared by environmental units and neither the accounting nor the finance teams were involved. However, Farneti & Guthrie (2009) did not pay particular attention to the visual aspects of the reports.

2.2 Impression management

2.2.1 Impression management in corporate reporting

Organisational scholars have been increasingly interested in the study of impression management **(**Rosenfeld et al., 1991**;** Tedeschi & Melburg, 1984). It has been investigated in a number of organisational contexts, including interviewing (Kacmar et al., 1992; Wayne & Ferris, 1990)**,** feedback seeking **(**Adams & Osgood, 1973), leadership (Wayne & Green, 1993) and corporate reporting (Aerts, 2005**;** Carter & Dukerich, 1998**;** Davidson et al., 2004**;** Dowling, 1986**;** Gardner & Martinko, 1988**;** Merkl-Davies & Brennan, 2007**;** 2011**;** Skærbæk, 2005**;** White & Hanson, 2002**).**

For example, Carter & Dukerich (1998) collected data from both listed and unlisted Belgian companies and argued that, within a capital market environment, a financial performance downturn constitutes a salient cue for impression management, while an upturn does not. They also revealed that, when their organisational reputations were subjected to decline, the companies had employed multiple types of impression management behaviours combined with an increase in press releases **(**Carter & Dukerich, 1998**)**. Similarly, Nemec et al. (2004) found that, in the wake of poor performance, companies engaged in impression management by portraying a better performance than warranted.

Merkl-Davies & Brennan (2007) highlighted impression management (Leary & Kowalski, 1990) as an explanation for the style and content of narrative reports **(**So & Smith, 2002**)**. They argued that managers are assumed to engage in the impression management of narratives by adopting one of two types of behaviour (i) concealment or (ii) attribution a defensive framing tactic that shifts the blame for any negative outcomes away from themselves. On the other hand, concealment can be attained

into two ways: by either (1a) disguising negative organisational outcomes (bad news) or (1b) emphasizing positive ones (good news).

Merkl-Davies & Brennan (2007) identified six concealment strategies. In two of these, bad news is disguised either by (i) manipulating the reading ease (i.e., making the text more difficult to read) or (ii) manipulating the rhetoric (i.e., using persuasive language). Four strategies emphasise good news by manipulating verbal and numerical information through: (iii) manipulating themes (i.e., emphasising positive words and themes, or emphasising positive financial performance); (iv) manipulating visual and structural formats (i.e., tweaking the way in which the information is presented by visually emphasising the ordering of verbal/numerical information); (v) comparing performance (i.e., selecting benchmarks that reflect the current financial performance in the best possible light); and (vi) choosing the earnings amounts to be disclosed to favourably reflect the current financial performance. The seventh strategy involved the attribution of organisational outcomes. They found strong evidence that was consistent with the findings of the impression management literature.

The next section focusses on the existing literature on impression management in the form of visuals, such as photographs/pictures, graphs and colours.

2.2.2 Visual impression management through pictures/photographs

In the context of photographic images, visualizations are argued to be very powerful in any disclosure strategy as they attract reader attention and are powerful tools of communication. Much research has been conducted in the area of photographs and pictures in annual reports.

Anderson & Epstein (1996) showed that the 'essay and pictorial' portions of annual reports were effective and less difficult to understand; although they were found not to be a "*credible way to communicate to the shareholder*", they were still recognized as **"*providing a forum to communicate information to the shareholder in a language they understand*" (**Anderson & Epstein, 1996:56-57). The previous psychological literature also supports this view by illustrating that pictures are easier to remember than words, and that it does not appear to matter whether meaning is extracted from a picture or its verbal label, signifying that **"*a picture can serve as word-in-context*"**(Nelson & Castano, 1984:12**).**

Similarly, McKinstry (1996**)** investigated a company's use of imagery over a period of more than 50 years. He reported that there were direct links between the profitability of the company, the political environment both internal and external and the various types of imagery used by the company in its annual reports. Further along these lines, Graves et al. (1996:83) analysed the influence of television on the corporate reports of 14 large American companies and found that the images used in US annual reports indicate a trend in society and concluded that they **"*serve the rhetoric purposes of arguing the truth claims of those reports and the social constructs they represent*".**

Garcia et al. (1991**)** approached the reading of text and photographs combined in news presentations very differently. They emphasised how readers 'travel' through the layout of pages. The respondents were exposed to one of two versions of a newspaper adorned with numerous photographs that differed both in size and proportion. In each version, the way the photographs were printed (in colour or in black and white) was inverted. The ways in which the respondents scanned and read were measured with an eye-movement tracking device that recorded how long they

looked at specific portions of text and at photographs. The findings revealed that the respondents usually entered the page by looking at the larger photographs and then scanned the others: at least half of them, often all of them. On average, they scanned 75% of the available photographs. According to these findings, it was argued that photographs do draw attention, but mostly to themselves. This was also consistent with prior studies (Knobloch et al., 2003**;** Zillmann et al., 2001**).**

Preston & Young (2000:436) analysed the concepts of globalization. They argued that annual reports **"*operate as mediascapes and ideascapes and thereby represent and construct the global through images and image/text of people, technology, and money*"**. They argued that annual reports encompass a gallery of images and texts, which not only represent global cultural flows but also overlay them with ideological meanings.

Simpson (2000) argued that the use of imagery in company annual reports is linked to maintaining the levels of ignorance in society that are important for companies to maintain their existence, and for society to maintain stability and order. Simpson (2000) concluded that, in an environment of increasing regulatory requirements for disclosure and transparency, companies may be seeking to maintain ignorance, distract the readers, and blur some facts through the use of imagery to maintain competition and ensure their survival.

Benschop & Meihuizen (2002) investigated photographs in annual reports from the perspectives of gender and diversity. Their results showed how these routinely work: the exclusion of gender as a topic of discussion, silences and omissions concerning gender ambiguity, the crossing of gender boundaries or gender-role inversions, and traditional stereotypical images of women and men all serve to maintain or even

reinforce the hierarchical gender order. Similarly, Bernardi et al. (2002) investigated the differences in the presentation of boards of directors in annual reports. They found that the proportions of female directors were 11% for companies that did not include pictures of their boards in their annual reports and 14.5% for companies that did. They concluded that companies that have a strong female presence on their boards of directors appeared to include pictures of their boards in annual reports to advertise this to stakeholders. Hence, pictures may be regarded as incremental information, a transparent carrier of intended messages (Preston et al., 1996**).**

Davison (2007:137**)** argued that **"*while pictures have traditionally been considered by accountants as lightweight elements of annual report packages, however, it may be argued that photographs are important ingredients in the richness and potency of their messages*"**. Davison (2013:60) found that **"*as well as occupying more space, pictures and photographs arguably have more impact and power than financial graphs since they are directly linked with organisations, and society through abstract forms and through representations of people, objects and places, even if they do not like graphs, instantly respond to the accounting figures*"**.

Similarly, Davison (2008) showed that the inclusion of repetition in pictures can act as a rhetorical framing to emphasise messages and thereby influence perceptions about images. She also demonstrated how imagery can be used to highlight and reinforce qualities not presented in written or numeric form in corporate reports (Davison, 2010**;** Warren et al., 2009**).** Townsend & Shu (2010) found that even experienced investors increased their valuation of company stocks when presented with more aesthetically pleasing annual reports in spite of their claims of aesthetics being one of the least influential pieces of information. While such general aesthetics

may thus have an impact, pictures play a more focussed role in impression management (Elsbach, 2006, cited in Highhouse et al., 2009).

Davison (2014:20-21) also argued **"*that the visual images of annual reports matter because pictures are ubiquitous, they are multi-faced, carry complex and co-existing messages and are open to rich and varied interpretations, they have interwoven roles as incremental information and impression management (or representation and construction); picture have a special place in memory and cognition and pictures have emotive power*"**.

2.2.3 Visual impression management through graphs

2.2.3.1 Definition

"*The terms 'graphics''graph design' and 'graphs' cause frequent confusion in visual accounting in terms of definition. Graphic and graphic design are generally used to designate the attention given to all visual media in an accounting document such as annual reports, including pictures, photographs, graphs, charts, colours and the visual presentation of numbers and words*" (Davison, 2013:34), whereas graphs, such as column, line, or pie charts, designate the visual representation of quantitative data.

A lot of attention has been given to the use of financial graphs in annual reports as they represent an integral part of a company's overall disclosure strategy. For example, most modern annual reports contain graphs.

2.2.3.2 Use of graphs

Research into financial graphs can be traced back to the 1980s, when US researchers became interested in the use and abuse of graphs in US annual reports (Johnson et

al., 1980**;** Steinbart, 1989). After Steinbart (1989), Beattie & Jones (2008) reviewed 17 empirical archival studies and four experimental studies into the use of graphs in annual reports. The detailed analyses are reflected in this and next sections.

Steinbart (1989) found that 79% of companies used graphs. CICA (1993, cited in Frownfelter-Lohrke & Fulkerson, 2001**)** found that 83% of companies used graphs. Mather et al's (2005) study of (a) 150 top Australian listed and (b) 44 not for profit organisations found that 83% of listed companies and 73% of non-profit ones used graphs. Similarly, Beattie & Jones' (1997) study of 176 leading companies from both the UK and the USA illustrated that 80% of UK and 92% of US companies used graphs. Beattie & Jones (1997) found that five years' time series graphs were the most popular and also documented significant numbers of 10 years' time series ones. Courtis (1997) showed that 35% of Hong Kong companies employed graphs.

Frownfelter & Fulkerson (1998) found that 89% of US and 86% of non-US companies employed graphs. Similarly, Beattie & Jones (1998**)** showed that 80% of UK companies employed graphs. Beattie & Jones (1999) found that 89% of diversified companies used graphs and the mean number of graphs used was 9.4**.** Mather et al's (2005) found that 28.3% of the prospectuses sampled included graphs. The most prominent graphs in all these studies were sales, earnings per share (EPS), dividends per share (DPS), and net income.

Additionally, Beattie & Jones (2001) also showed some support for Nobes' (1983) micro and macro classifications. They found some evidence for Germany but unexpectedly weak evidence for France. For example, across six countries, 88% of the companies studied employed graphs in their annual reports. The three countries found to have the highest percentages were Australia, the Netherlands and the USA.

German companies had the lowest 28%. Companies in micro-economics also employed more DPS, EPS and ROCE graphs and significantly more companies in these countries published at least one KFV graph. Conversely, for non-financial graphs such as employee ones, France and Germany showed the highest absolute frequency, presenting 43.5% and 31% graphs respectively, while these graphs were absent in the UK/USA. This was also consistent with the findings of Frownfelter-Lohrke & Fulkerson (2001)**.**

Mohd Isa (2006) showed that 66% of companies used graphs and that the most popular ones were sales, earnings, EPS, share price, and cash flow graphs. The users also preferred time-series graphs covering five years or more. However, distinct national patterns were evident. Typically, in Australia, the UK and the Netherlands, profit was the most popular variable. By contrast, in the USA and Hong Kong, sales were the most frequently graphed in annual reports, German results were anomalous: of the four variables most frequently presented in graphic form in other countries, only sales ones were published by more than a quarter of companies (Beattie & Jones, 1996**).**

Similarly, Beattie & Jones (2008) found that 99% of companies employed graphs and that the most popular ones were those depicting KFV, sales, EPS, and DPS. They reported that the use of graphs among the population of large listed companies had become universal and that the mean number of graphs had risen from 5.9 to 6.9. The types of graphs used for key financial variables had normalised further towards the column/bar variety. Muiño & Trombetta (2009) found that 92% of companies used graphs. A more recent paper by Lisa et al. (2015), which investigated the annual reports of the top 50 European companies in the Fortune 500 index over a

period of seven years, reported a widespread use of graphs (i.e., 4683 graphs) in the annual reports of European companies.

2.2.3.3 Benefits of graphs

There is general agreement that graphs are used for two main purposes: to explore and analyse data and to present/communicate information to an audience. The types of graphs used depend upon their underlying purposes. Column graphs and line graphs are found to be particularly suited to the display of time series data. The other graph type found with any frequency in annual reviews/annual reports is the pie chart, which is suited to display a single categorical variable.

Column graphs have been found to portray information simply and effectively **(**Beattie & Jones, 2002). For unsophisticated readers in particular, they may permit an easier understanding than the traditional financial statement. Steinbart (1989) illustrated that the bar chart was by far the most common type of graph representing almost 78% of all graphs. However, Beattie & Jones (1996) found that the most common graphs used in annual reports were pie charts, which were employed by 54% of companies.

The benefits of using graphs to present financial income are well documented (Holmes, 1984**;** Tufte & Graves-Morris, 1983**),** as they are considered a powerful medium of communication (Beattie & Jones, 2002**).** For example, the theory of graphics claims that accuracy is effective when reports contain a combination of graphical and numerical information, rather than numerical information by itself (Jarrett, 1983**;** Tufte & Graves-Morris, 1983**).** Graphs highlight the relationship between variables through the use of symbols and colour dimensions. They reveal patterns and underlying trends that facilitate comparisons and projections. A study

argued that good graphs do not just happen; as they can create a powerful visual impression of data, they have to be carefully planned (Beattie & Jones, 2000a).

2.2.3.4 Impression management in graphs

Impression management occurs in graphs when a company selectively displays or presents information in such a way that it distorts the readers' perceptions of its true performance (Godfrey et al., 2003**).** Johnson et al. (1980) conducted a first study of impression management through graphs and found that at least one graph had been incorrectly constructed in 42% of the annual reports and that 29.5% of all graphs reviewed had been constructed incorrectly. Similarly, Beattie & Jones (1999) argued that financial graphs are used to add legitimacy to companies. Beattie & Jones (1999) identified four main types of graph manipulation found in annual reports; these are selectivity, presentational enhancements, orientation distortions, and measurement distortions.

Selectivity

Selectivity occurs when companies choose whether or not to include a graph in their annual reports contingent upon their underlying performance, including which time periods to cover.

Beattie & Jones (2000b) referred to selectivity as the primary criterion for graph choice; the other criteria of graph disclosure choices are secondary as they are contingent upon a graph being used. Beattie & Jones (2000b) argued that graph manipulation may occur due to either the preparer's lack of competency or deliberate manipulations. However, prior studies had argued that graph manipulation is deliberate. For selectivity, for example, many studies illustrated that companies use

significantly more graphs illustrating favourable rather than unfavourable performance **(**Beattie & Jones, 1996; 2000b**;** Frownfelter & Fulkerson, 1998**).**

Similarly, in the USA, Steinbart (1989) found that 74% of companies with increased performance in annual reports used graphs presenting sales, incomes or dividends, while only 53% of companies used them when their annual net income had decreased. This was also tested by Beattie & Jones (1992a; 1992b) on 240 companies in the UK. They showed strong support for Steinbart's (1989) study. For example, Beattie & Jones (1992) found that 79% of companies used graphs and 65% presented at least one KPV, such as sales, DPS, EPS, and profit before tax. They also found that the UK companies were more likely to include graphs in their annual reports when their one year performance was favourable. This was further supported in a number of other contexts using a cross-sectional research design: in a six-strong international study (Beattie & Jones, 1996**;** 2001); in a study of Australian companies **(**Beattie & Jones, 1997**;** Mather et al., 1996**);** and in a US/non-U.S. international comparison (Frownfelter & Fulkerson, 1998).

Beattie & Jones (1992) also investigated the location of KFV graphs in reports and found that 66% of companies placed their graphs in the financial highlighted section, followed by 32% of companies locating their graphs in the management discussion and analysis sections. A more recent paper by Lisa et al. (2015) found that graphs are much more likely to exaggerate positive trends than to understate them. They concluded that companies produce graphs in order to convey a favourable impression of themselves.

Measurement distortion

Measurement distortion occurs when a graph is included but the figures on it do not accurately represent the underlying financial data and are not calculated using the GDI formula.

Steinbart's (1989) data uncovered that, on average, measurement distortions of +11 were found in the 319 examined annual reports. It was also claimed that companies are more likely to include distorted graphs in their annual reports when their income has declined rather than increased (Steinbart, 1989). This concurred with Beattie & Jones (1992), who concluded that distortions favourable to the companies are three times more likely to occur than unfavourable ones.

Beattie & Jones (1997) found that 24% of the graphs presented by both USA and UK companies were materially distorted. Similarly, in the six countries' study, Beattie & Jones (2001**)** identified that 26% of all KFV graphs were distorted by between 5% and 50%, with 9% being distorted by more than 50% of the companies. This is consistent with Frownfelter & Fulkerson (1998**),** who showed that the financial graphs contained within US reports were materially distorted (on average, 81%). These distortions are alarming because distortions of more than 5% are considered to be material (Tufte & Graves-Morris, 1983**).** Similarly**,** Courtis (1997) examined the annual reports of 114 Hong Kong companies and found that close to half of the graphs were distorted.

Furthermore, in each of these studies, with the exception of Beattie & Jones (1999), a mean measurement distortion greater than 10% was reported for at least one of the sub-group of companies studied. These groups included Australia **(**Mather et al., 1996**)**; France (Beattie & Jones, 2000b); Germany (Beattie & Jones, 2000b); the UK

(Beattie & Jones, 2000b**)** and the USA (Steinbart, 1989; Beattie & Jones, 1997; 2000a). For example, Beattie & Jones (1996) illustrated that 28% of Australian, 27% of French, 21% of German, 14% of UK, and 21% of USA graphs had measurement distortions greater than 10%.

Presentational enhancement

Presentational enhancement occurs where undue prominence is given to particular aspects of graphs. Examples include the use of graph shapes, the use of inappropriate three-dimensional specifiers and the inconsistent use of colour, highlighting the final year's column graph in a five-year time series to highlight that particular year's performance. Beattie & Jones (1999) showed how, in seven cases, the last year was highlighted by being presented either in a different colour (six cases) or in a darker hue than the previous years (one case). In two further cases, they found that the graphs representing the previous year were highlighted differently. For example, Goodman Fielder Wattie's previous year's labelling was in bold type. Coca Cola Amatil's 1991 sales and trading profit specifiers used only bright red (1989), while the 1990 graphs were in blue. The labelling was also selective and excessive. For example, only the 1991 sales specifiers were numerically labelled. The label was 52 cm in width, less than 1 cm in height and positioned at the top of the specifiers (which were only 0.7 cm wide), which immediately caught the eye.

Beattie & Jones (2001) also found that UK companies graphed shorter time-series and that tools such as colours and typefaces were more likely to be used by UK companies to emphasise the final year's performance.

Presentational orientation

Presentation orientation involves the alteration of the slope parameters **(**Beattie & Jones, 2002**)**. The slope parameter is the angle of the graphic's trend line, and it can be altered by changing either the graphs' height or width or both. Presentation orientation occurs when the graphs are constructed so as to emphasise certain design features in order to present a company's performance in a way more favourable than warranted.

Studies in statistical graphics have shown that judgment accuracy is optimised when the slope parameter is 45° **(**Cleveland & McGill, 1987) as graphs' readers are best able to distinguish data variations at this slope parameter setting. Orientation distortion occurs when the slope parameter diverges from 45°, resulting in the inaccurate and biased judgment cited in Cleveland et al. (1988). Beattie & Jones (1999) reported that 86% of all KFV graphs exhibited slope parameters which departed more than 10° from the 45° optimum, thus reducing communicative effectiveness.

Beattie & Jones (1992) and CICA (1993, cited in Frownfelter-Lohrke & Fulkerson, 2001) found that certain graphs' design and constructive features (e.g., graph types selected, use of background, directional ordering of time-series) appeared to be manipulated in order to present a company in the best possible light. For example, Beattie & Jones (1992) found frequent instances of inaccurate design, including 17 cases of non-zero axes. Beattie & Jones (1999) showed that 18 of the Australian companies under study did not use properly scaled time axes, eight did not use scaled financial variable axes and 27 did not use gridlines. In particular, six

companies did not employ effectively scaled KFV axes or gridlines, the combined absences of which made relative judgements extremely difficult.

Similarly, Frownfelter & Fulkerson (2001) data collected from 270 annual reports found that 2,270 graphs were in use (of these, 1,007 graphs were published by US and 1,263 in non-US companies), and found that nearly half (43%) of all graphs did not show a scale, with the US-published graphs being much worse in this regard (64%) than the non-US ones (29%).

In summary, the four types of graphs manipulation discussed can potentially be linked to two causes, either a lack of understanding of graphical principles by the designers or a deliberate attempt by the designers or managers to manage the perception of a company's financial performance. However, Beattie & Jones (1999) argued that it is a deliberate attempt to add legitimacy to a company.

Reader perceptions

Experimental studies of how human subjects react to the financial graphs published in annual reports collectively illustrated that improperly designed graphs in annual reports affect subjective views of underlying corporate financial performance (Arunachalam et al., 2002**;** Beattie & Jones, 2000b**;** Taylor & Anderson, 1986**).** For example, Beattie & Jones (2002) examined several distorted graphs and concluded that, at low levels of distortion, students perceived no differences. However, when the levels of distortion increased above 10%, students increasingly perceived differences. Therefore, distortions greater than 10% will affect user perceptions. On the other hand, distortions of 5% are regarded as being material **(**Tufte & Graves-Morris, 1983).

Beattie & Jones (2002) also found that the slope parameter affects the user's judgments of financial performance. Graphs with steeper trend lines (i.e., greater slope parameters) were perceived as more favourable than graphs with shallower ones, even though the underlying data were the same.

Arunachalam et al. (2002) examined four types of improper graph designs; proportionality distortion (use of non-zero or broken axes); year reversal; masking (i.e., graphing two variables of greatly differing magnitude on the same y-axis scale); and omission of negative values. They used three experimental groups of accounting students. In the first stage of their experiment, they investigated all four types of improper graph designs; in the next two stages of the experiment they focussed on proportionality distortions. The findings from all three experiments evidenced that graphical impropriety affects subjective decisions.

Similarly, Muiño & Trombetta (2009) found that graph distortion bias has a significant but temporary effect on the cost of equity. Burgess et al. (2011) found that, with the exception of females, all respondent groups enrolled in executive and regular programmes suggested that distorted graphs were likely to influence viewer perceptions. A more recent paper that investigated the top 50 European countries listed in the Fortune 500 index revealed that the topics displayed and how they were presented significantly changed over time and that graphs were much more likely to exaggerate positive trends than to understate them. Longer time-series sequences (greater than five years) almost exclusively depicted trends (almost 86%) and graphical measurement distortions were applied on purpose for both key financial variables (KFV) including for non-financial variables (around 30% in all years) (Lehner et al., 2015).

In summary, it appears that companies use graphs in annual reports in an attempt to manage impressions and that such attempts are likely to influence annual report reader perceptions. Hence, graph disclosures are intended to serve the needs of managers rather than the users' interests.

2.2.4 Impression management in colour

2.2.4.1 Introduction

A study has suggested that, over the past half century, there has been an increased use of colours in global corporate annual reports. Recent technological advancements have reinforced the importance of colour and thereby spurred an interest in understanding its impact on managers (Benbasat & Dexter, 1986**).** It is regarded as an integral part of products, services, packaging, logos, and other aspects, and an important instrument in creating and sustaining brand and corporate image in the customers' minds. It is used in covers, photographs, and graphs, and widely appears in animations. Colour is both a visual, emotional, and psychological stimulus **(**Madden et al., 2000); it has the potential and capability of inducing moods with regard to attitudes or feelings. It is also known to improve the overall comprehension of issues and understanding of a problem, while causing less eye strain and fatigue **(**Jeffrey & Beck, 1972**).**

2.2.4.2 Branding

Kauppinen-Räisänen (2014) investigated the use of colour in brand packaging, particularly how it assists in capturing consumer attention and affecting perceptions at the point of purchase. He found that up to 90% of consumers make purchase decisions based on the visual examination of the front of packaging. Kauppinen-

Räisänen (2014) also argued that consumers are well known to draw a relationship between colour and brand in order to create brand meanings and evaluate brands. For example, some colours are strongly associated with global brands such as Kodak (yellow), Coca-Cola (red), Nokia (blue), Marlboro (red), and Pepsi (blue). As a result, colour is not merely important in identifying brand identities but also in brand communication. Two US supermarkets were found to imitate leading national brands' visual equity in terms of colour, size, and shape (Morton & Zettelmeyer, 2004). Colours and products have connotational meanings (Bottomley & Doyle, 2006**).** For example, functional colours are considered more appropriate for functional products and sensory-social colours are more appropriate for sensory-social ones. Similarly, while brands that promote a functional image are better received in blue, brands promoting a sensory-social image are better received in red. Hence, within the sphere of commerce, colour is regarded as important in many fields. Colour is also an essential component of many corporate and brand-building cues, such as logos, packages, and displays (Schmitt & Pan, 1994**).**

2.2.4.3 Culture

Colours can be specifically cultural in origin (Rosch, 2000, cited in Courtis, 2004). For example, Wiegersma & Van der Elst (1988) conducted a cross-cultural study and reported that blue was the colour most often chosen. Madden et al. (2000) also found colours such as blue, green, and white to be all well-liked across countries and to share similar meanings. The Wagner colour research institute found that colours are associated with certain images (Lane, 1991**).** For example: blue is associated with wealth, trust and security; grey is associated with strength, exclusivity, and success; and orange denotes cheapness. He further argued that these associations may explain

the reason why banks are more likely to colour their logos and other promotional materials in blue or grey, rather than orange. Similarly, Adams & Osgood (1973) surveyed people in 23 countries and found that blue, green, and white were the most highly evaluated colours, while red and black were the most potent. Red was also regarded as the most active colour, while black and grey were viewed as the most passive. Jacobs (1993**)** found that US students associated black with expensive and powerful, blue with dependable, trustworthy, and of high quality, red with love, grey with dependable and of high quality, and yellow with happiness.

2.2.4.4 Impression management of colour in corporate reporting

There is a large volume of scientific literature on colour; however, there is no general theory of how colour causes specific perception formations. There is nothing in the accounting literature to guide annual report preparers. Marketing psychology advises that a sustained colour impression is made on a subject within 90 seconds and that colour accounts for 60% of the acceptance or rejection of an object, place, individual, or circumstances (Meyers-Levy & Peracchio, 1995**).**

Courtis (2004) discussed various theories including the power of colour and Levy's 'Research into the psychological meaning of colour'. His underlying motivation was to explore unassumingly and tentatively whether colour makes any difference within financial reporting. Courtis (2004) reviewed 100 annual reports published by public companies listed on the Hong Kong Stock Exchange for the year 2000 and found that 97% of the companies had used colour. The most frequently applied colours were identified as blue, ivory, green, pink, purple, grey, and yellow. An experiment was then conducted to proxy a persuasive form of visual rhetoric. The results revealed that different colours were associated with more or less favourable

perception formations and with more or less investment allocations. For example, ivory and grey were associated with higher optimistic perceptions about corporate health, while pink was associated with the least optimistic perceptions. Green was associated with the highest fund allocations, and for both genders. Purple was associated with the lowest fund allocations. The result also showed that green, as a background colour, was associated with the highest investment allocations and was showing significantly higher allocations than pink, white, grey, and purple as background colours. Green was associated both with a signal of safety and with good environmental practices. Thereby, the evidence suggests that visual rhetoric, as proxied by colour, may play a role in investment decision making. Courtis (2004) also examined gender differences and found that there was some tentative evidence of genders possibly perceiving some colours differently; however, as the study was conducted on a small sample, he concluded that a large sample and a different cultural setting would be needed to develop this further. Overall, Courtis (2004) found that companies used more colours when their profitability both increased and decreased. The study also revealed that colour may not possess neutral effects in annual report communication.

Similarly, So & Smith (2002) conducted a laboratory experiment on 93 participants and assessed the interactive effects with information complexity and with gender of non-redundant colour coding in bar charts. The results revealed that the value of colour in graphics in multivariate decision performance is dependent upon the complexity of the task and upon the gender of the user. Colour graphics were regarded to be ineffective in tasks of high complexity, apparently due to information processing difficulties with graphics in complex tasks (rather than because of an issue with the colour itself). Colour was also found to be less effective for males,

apparently because colour is less appealing to them, and they do not focus sufficiently on colours to derive benefit from them. However, colour was found to be effective in low task complexity environments and for female users, but the reason for this was unclear. It was unclear why colour assists in information processing; it was deemed possible that colour coding makes relationships in the information (multivariate information in particular) more distinct and comprehensible; perhaps colour coding is more easily read, in that, on a white background, purple, red, yellow, and blue all have a higher order of legibility than black and shades of grey. It could be that colours are more appealing to the eye and attract more attention and processing; it might also be that the act of associating pieces of information with colour codes enhances a subject's ability to store or retrieve it from memory or both. So & Smith (2002) concluded that colour graphs improve decision making, although their impact is significant only when information complexity is low, and then for female subjects only.

2.2.5 Visual impression management in sustainability reporting

As in annual reports, the use of visual impression management as a strong tool is also evident in sustainability reports; however, it has been little examined in the latter. To date, there have been few visual-related papers (as shown in Appendix 12**),** **(**Boiral, 2013**;** Cho et al., 2012a,2012b**;** Duff, 2016**;** Hrasky, 2011**;** Jones, 2011**;** Pesci & Costa, 2014**;** Rämö, 2011) and a detailed analysis is provided in the next section.

2.2.5.1 Websites

Cho et al. (2009) investigated the presentation medium of corporate environmental and social website disclosures and the effect of media richness on user perceptions of

corporate environmental and social responsibilities. Their studies were motivated by the results of Milne & Patten's (2002) investment scenario experimental study; i.e., that, under certain circumstances, positive environmental disclosures are effective in offsetting the negative effects of liability exposure in people's minds.

The participants for this study were senior level undergraduate accounting students from a large Southeastern US university. The experiment also entailed six treatment conditions in which both the presentation medium (text only, text with graphics, or interactive media) and the industry sector type (environmentally sensitive or non-environmentally sensitive) were manipulated. They classified environmental sensitivity versus non-environmental sensitivity based on Patten & Crampton's (2004) justifications. Environmentally sensitive industries are those **"facing greater exposure to potential environmental regulation and investigation"** (Patten & Crampton, 2004:40**).** They regarded the chemical industry as being subject to greater environmental public pressure, while the electronic equipment industry is not. This enabled the analysis of differences in disclosure related to environmental sensitivity. Similarly, Cho et al. (2009) employed Patten & Crampton's (2004:40) contention, defining positive disclosures **"*as information that present the company as acting in harmony with the environment. In contrast, negative disclosures represent information indicating that the company has had a negative impact on the environment, while neutral disclosures are information that only has positive or negative connotations relative to other comparative data*".**

Cho et al. (2009) found that the disclosure of environmental and social information within a website can potentially influence user perceptions of corporate social responsibility. Websites enhance company voluntary disclosures and also provide

users with a number of levels of richness. A previous study also found that websites are richer communication media than traditional print ones (Lodhia et al., 2004**).**

Cho et al. (2009) concluded that, overall, the richness of the presentation medium used for environmental and social disclosures positively influences the levels of trusting intentions, but not the trusting beliefs of website users. This was consistent with Bonita et al.'s (2003) study cited in Cho et al. (2009) indicating that there is a positive association between richness and trust. Cho et al. (2009) argued that the richness of visual presentation causes user-bias in their views of corporate environmental and social responsibility reporting. Hence, companies may use the richness of the presentation medium of their environmental and social website disclosures as a device for legitimizing purposes (Cho et al., 2009).

2.2.5.2 Photographs and Pictures

Rämö (2011) investigated CSR reporting of photographs meeting the recognized reporting standards of the Dow Jones Sustainability Index (DJSI) and the Financial Times 4Good Global Index (FTSE4Good) which had been regarded as two of the leading global socially responsible investment (SRI) Index providers in a 2009 comparison- a total of 153 companies around the world were included in both the DJSI and FTSE4Good indices. The author analysed a total of 1,493 pictures published in 134 standalone sustainability reports in terms of sign uses, motifs (appearances, objects, and sceneries), and themes, and argued that, in CSR reports, photographs are frequently forward looking; i.e., companies portray all the good things they will be doing in the future rather than emphasise past performances (as financial reports tend to do). CSR reports include photographs of children, action, beautiful people in leisure activities, instead of more sober images of CEO testimonies and pictures of recent products and services. Images in CSR reports also

hint at promises of a better future through responsible and effective business activities; conversely, the images published in financial reports call for trustworthiness and accountability. Hence, CSR is particularly susceptible to images and pictures as it emphasises 'softer' numerical values aimed not only at professionals but also at a wider audience. In CSR reporting, images not only portray corporate activities but, at the same time, are used to align with text in aspirations to characterise wise management practices. As written and visual metaphors carry direct meanings and can be used in responsibility seeking communications, the author concluded that visuals are used as impression management tools to focus and hold reader attention on the provided information, to portray corporate values, and to provide customers with seemingly convincing evidence (Rämö, 2011**).**

Hrasky (2012) analysed the use of photographs in sustainability reports of companies more or less driven by sustainability. Hrasky (2012) employed Suchman (1995) and particularly the latter's distinction between pragmatic and moral legitimacy to analyse whether or not corporations, in their sustainability reports, appeared to be using imagery as green washing tools in their communication with stakeholders. The data set was made up of the Top 200 Australian companies by market capitalisation that produced standalone sustainability reports, with those that also appeared on the Australian SAM sustainability Index (AUSSI) being determined to be more sustainability-driven than the others in the sample.

Suchman (1995) argued that both pragmatic and moral legitimacy are underpinned by the disclosure of information to relevant stakeholder groups. Hrasky (2012) argued that pragmatic and moral are the most relevant forms of legitimacy to explore in the context of sustainability-related disclosure strategies. A corporation pursues pragmatic legitimacy by engaging in self-interested behaviours with the aim of

impressing its most immediate stakeholders (Suchman, 1995**).** One way of attaining pragmatic legitimacy is by projecting an image that is honest and trustworthy, one which embodies and exemplifies the values also held by stakeholders in ways that reveal very little about the reality of the underlying operations. An organization engages in moral legitimacy when its stakeholders make a favourable evaluation both of it and of the way in which it undertakes its activities (Suchman, 1995).

Hrasky (2012) examined the carbon footprint related disclosures of large Australian companies with the aim of identifying whether symbolic or behavioural approaches seemed to dominate. She reported evidence consistent with more carbon-intensive companies adopting a behavioural approach, and less intensive one relying more on symbolism. She argued that photographs have rhetorical power and can be used symbolically to create an image of a caring and committed corporate citizen while not actually having any substantial link to actual operations. The use of such imagery would be expected when an organisation is pursuing pragmatic legitimacy. Photographs can also be employed to support and emphasise accounts underpinning a behavioural strategy of visually reinforcing the sustainable nature of a company's operations with relevant images. Additionally, in order to gain moral legitimacy, stakeholders must actually be made aware of an organisation's actions; thus, relevant supporting imagery can focus attention of what is actually being done.

Sustainability-driven companies take actions aimed at promoting sound environmental and social practices and can report on the outcomes of these actions. On the other hand, less sustainability-driven companies will adopt a more symbolic approach to disclosure in their pursuit of pragmatic legitimacy. Disclosure will be aimed at creating an impression of responsibility without actually reporting on substantive actions and outcomes. To pursue their legitimation goals, these different

disclosure strategies can be expected to use graphs and photographs in different ways (Hrasky, 2012).

Hrasky (2012:158) argued that ***"photographs play an important role in attracting readers to a page"***. Sustainability-driven companies are expected to use more photographs and graphs as part of their visual disclosures strategy to focus reader attention on important aspects of their operations. The visual disclosures of sustainability-driven companies focus more on specific environmental aspects, followed by social ones, and focus least on the economic dimensions. Both more and less sustainability-driven companies use similar numbers of photographs to play on attention directing (Hrasky, 2012). She concluded that less-sustainable-driven companies pursue legitimacy symbolically, while more sustainability-driven companies convey their actual impacts and accomplishments more.

Similarly, Boiral (2013) used theory from Baudrillard & Debord's 'spectacle and simulacra' to frame the content analysis of the sustainability reports of A and A+ GRI compliant reports of mining and energy organisations. The A and A+ GRI guidelines are generally regarded as the strictest in the field (Moneva et al., 2006**).** Boiral (2013) used GRI guidelines in selecting a sample size of 23 standalone sustainability reports from various countries such as Australia, Brazil, Canada, Chile, Germany, Indonesia, Korea, Mexico, Netherlands, Russia, South Africa, the UK, and the USA. His idea was that, if corporate financial reports are used as an impression management tool, then it is reasonable to assume that sustainability reports, which are less regulated, will provide an opportunity and encourage companies to engage more in impression managements.

Firstly, Boiral's (2013) paper investigated the extent to which the 23 standalone sustainability reports addressed various significant current events covered by the sustainability development indicators used by the GRI that called corporate responsibility into question. This analysis assisted in demonstrating the relevance of counter accounting (Adams, 2004**;** Gallhofer et al., 2006**)** in assessing the level of transparency found in sustainability reporting and whether or not certain fundamental principles of reporting were applied. Counter accounting in an area of CSR that can be defined **"*as the process of identifying and reporting information on an organisation's significant environmental, social and economic issues that comes from external or unofficial sources*" (**Boiral, 2013:1037). Secondly, Boiral (2013) investigated the standalone reports' overemphasis on achievements and positive statements. Thirdly, the author examined the role and meaning of the sustainable development imagery included in the reports. Firstly, his counter accounting analysis showed that only 10% of any significant news or events concerning sustainability development had been reported explicitly and clearly in sustainability reporting. Thus, 90% of the negative events had not been reported, contrary to the principles of balance and completeness of GRI compliant reports.

Boiral (2013) argued that these findings not only called into question the transparency generally associated with sustainability reporting especially for those companies employing A and A+ level GRI guidelines (KPMG, 2008; Moneva et al., 2006) but also confirmed **that "*sustainability reporting can be viewed as simulacra that camouflage real sustainable-development problems, presenting an idealized version of the company situations*"** (p.1061).

Secondly, the information actually presented in the standalone reports illustrated a very clear trend towards organisational narcissism (Duchon & Drake, 2009), which

contributed little to the transparency and credibility of the reports. Such narcissism was especially evident in the emphasis given to the positive achievements, which included activities associated with issues or events that had been strongly criticised in the press.

Thirdly, companies used images of forests, rivers, and smiling faces- all images that could create an idealized representation. The images used also reflected that the companies were concerned for the environment or their stakeholder relations. The use of images in CSR communications and reports could be regarded as an organisation's attempt to communicate, in a simplified form, claims of being a good corporate citizen. The emphasis on positive corporate achievement is consistent with both voluntary disclosure theory and legitimacy theory, which also predicts that companies will use sustainability reports to send positive signals aimed at enhancing their competitive positioning and/or social legitimacy **(**Adams, 2004**;** Deegan, 2002b**;** Gumb, 2007).

A more recent paper by Duff (2016) looked at UK professional accounting companies' documents for 2009. He examined corporate social disclosure undertaken by 20 accounting companies operating in the UK, using annual reviews, CSR reports, websites, and recruitment materials. The disclosures were categorised; i.e., monetarily quantified, non-monetarily quantified, narrative/discursive, and pictures.

Duff (2016) found that pictorial disclosures relate largely to HR and community disclosures: HR (73%); and community (20%). Within the HR category, pictures were largely employed to project matters relating to training (24%), recruitment (23%) and diversity (18%). For community disclosures, pictures were usually used

to depict employee volunteering efforts (8%) or the corporate sponsorship of charitable events aimed at graduates and experienced hires. Depicting corporate social activity provides a source of differentiation and a means by which to draw attractive prospective hires to an unattractive industry. Duff (2016) concluded that active corporate involvement in corporate social reporting provides a means of managing reputation and an avenue to protect and enhance the constituents' social evaluation of individual companies.

Similarly, Pesci & Costa (2014) focussed on content analysis techniques to evaluate the role played by non-narrative visual disclosures in CSR reports. By using different content analysis techniques to define stakeholder prioritization i.e., the total of disclosure for each stakeholder. The authors examined 98 CSR reports issued by Italian Cooperative banks. They found a massive occurrence of visual disclosure, which consequently implied that visuals cannot or should not be ignored in content analysis studies. The authors argued that, on average, visuals occurred every 0.9 pages. With regards to pictures, they found that these were used extensively; out of a total of 4,933 visuals, 78% were pictures and drawings (3,864). The pictures were mainly related to members and initiatives that benefitted the community. People's faces were clearly identifiable in these pictures, thus fostering a process of identification, including arousing emotions evoked by memories of past events (e.g., opening ceremonies of new branches, corporate trips, prize awards to students). The authors argued that cooperative banks carefully selects when, how and to what extent visuals are used in prioritising some specific stakeholder groups. This supported part of the conclusions drawn by Hrasky (2012) in regard to the ways in which a company may use different means of communication in managing its relationship with its stakeholders with the probable aim of legitimising its activity. The authors

concluded that companies use different communication means and forms (including visuals) to manage their relationships with their stakeholders.

2.2.5.3 Graphs

Four previous papers had examined the use of graphs in CSR reports: Jones (2011), Cho et al. (2012a; 2012b), and Hrasky (2012).

In 2005, Jones (2011) had collected data on the market capitalisation of 63 UK companies. He provided compelling evidence to the social and environment literature (Cerin, 2002**;** Neu et al., 1998**),** demonstrating that companies employ graphs seeking to give a more favourable impression, rather than an unfavourable one, of their activities.

Jones (2011) based his contention principally on the impression management and environmental disclosure literature, and argued that companies from high impact industries (such as construction, real estate, extractive, utilities, beverage, tobacco, and food products) will be more selective and seek to give a relatively more favourable view of their environmental and social performance than companies from low impact ones (such as financial, telecom, and media). Jones (2011) argued that this is because they will be keener to legitimate their activities within society. The environmental and social literature also shows the key importance of the high and low impact of industry sectors on the nature and extent of their environmental disclosure (e.g., Campbell, 2003; Freedman & Jaggi, 2005; Gao, Heravi & Xiao, 2005; Hackston & Milne, 1996, cited in Jones, 2011).

Jones (2011) showed that companies from high impact industry sectors employ graphs portraying good news relatively more favourably than those from low impact ones. Overall, from the 86% of companies that used graphs; there were 299 instances

of graphs with favourably presented trends, but only 104 with unfavourably presented ones. This is strongly consistent with the notion that, by selecting topics and trends, companies are using their reporting discretion to portray themselves favourably to their stakeholders. Additionally, although 232 graphs were distorted in the companies' favour, only 164 gave a more favourable graphic view of performance than was warranted. Jones (2011) found compelling evidence that companies used graphs as a means of impression management.

Similarly**,** Cho et al. (2012a) investigated the use of graphs in standalone sustainability reports and whether it presented a more favourable view of corporate environmental and social performance. They also examined whether differences in the extent of impression management were associated with differences in environmental and social performance. Cho et al. (2012a) based their expectations on findings drawn from previous research into the corporate use and abuse of graphs, which had mainly examined data from financial reports (Beattie & Jones, 1999; 1997; 1999; 2000a; 2000b; 2002; Beattie et al., 2008; Courtis, 1997; Steinbart, 1989), which suggested that corporations use graphs as tools of impression management. Firstly, selectivity in the use of graphs has consistently been shown to be positively associated with company and/or item performance, and second, where distortion in graph depiction occurs, it tends to convey a view that is more favourable than the underlying financial data suggests. The authors collected data from 77 US companies for 2006; in order to be part of their sample, the companies had to have a standalone-sustainability type report for 2006 available for review, and also had to have social and environmental performance evaluation data available through KLD research and analytics, Inc. (hereafter, KLD). They also conducted a search on corporate register.com and individual company websites, which resulted in

the selection of companies from 27 different industries based on two-digit primary standard industrial classification (SIC) codes, with the largest representation, 13 companies, coming from the utilities sector. More specifically, Cho et al. (2012a) expected worse performing companies to use more favourable items to highlight through graphs than their better performing counterparts, and to be more likely to distort their presentations in order to portray a better performance.

Cho et al. (2012a) found strong evidence for the use of graphs in sustainability reports. For example, 55 of their sample companies had published at least one graph of environmental performance and 59 had published at least one social graph. On the other hand, only 33 out of 77 company reports contained graphs of financial items. In total, there were 432 environmental, 342 social, and 92 financial graphs, for an overall total of 857 graphs.

The authors found strong evidence of favourable selectivity bias in the choice of items graphed. The majority of graphs relating to social events, the environment, and economy portrayed items exhibiting favourable performance trends. Overall, Cho et al.'s (2012a) results indicated that the trends in the graphs used, and misused, in US standalone reports were consistent with previous study findings on the use and abuse of graphs in annual reports. For example, 451 out of 570 graphs reflected items with a favourable trend, which was evident in environmental, social, and economic graphs. The authors also reported some evidence for graph distortion such as favourable bias (emphasizing positive performance). For example, 125 out of 570 graphs contained material distortions. In addition, they also examined whether the use of impression management in graphs appeared to be due to legitimacy purposes. They first tested social disclosures, and the evidence illustrated that companies with worse social performance make more use than their better performing counterparts

of impression management in order to project favourable impressions. On the other hand, there was no evidence of any relation between environmental performance and the use of impression management in environmental graphs; therefore, the results for whether impression management is used for legitimizing purposes were mixed. Overall, Cho et al. (2012a) found that standalone sustainability reports appear to be more about fostering public relations than providing a meaningful account of corporate environmental and social impacts.

In a second paper, Cho et al. (2012b) investigated whether strategies also appear to be used in the presentation of graphs in standalone sustainability reports. They characterised the standalone sustainability reports issued by companies based on Leuz et al.'s (2003) classification into three clusters. Cluster 1 included the United Kingdom and the USA, cluster 2 contained France and Germany, and cluster 3 Italy and Spain. The authors conducted their research on 120 companies representing the 20 largest publicly traded companies from six different countries in terms of market capitalization as of 31 December 2006. They found that the difference in the average number of graphs per company depicting favourable as opposed to unfavourable trends was statistically lower for cluster 1 companies than for cluster 2 or 3 ones. For example, cluster 1 companies, on average, included 398 more favourable trend graphs than unfavourable ones. In contrast, the cluster 2 and 3 companies showed a difference of 630 and 730 graphs per company respectively. The authors reported considerable evidence of an enhancement strategy applied to the choice of the items graphed, and some evidence that the degree of enhancements was more common moving from cluster 1 companies to cluster 3 ones, although the differences were limited to only cluster 1 companies in comparison to those from the other clusters. The percentage of graph manipulations in the form of measurement distortions

increased across the three clusters. For example, cluster 1 companies had the lowest percentage of materially distorted graphs in their standalone sustainability reports, whereas cluster 3 companies had the highest.

The authors found considerable evidence of manipulation of graphs in the form of both graph enhancement and obfuscation. For example, more than 70% of the graphs included in the standalone sustainability reports depicted items with favourable underlying trends. Similarly, there was also evidence of graph obfuscations.

Graphs constructed with material distortions based on the relative graph discrepancy (RGD) more than 60% of which were biased in directions that were favourable to the companies, such as over-emphasising positive trends or under-emphasising negative ones. Based on Leuz et al.'s (2003) classifications, the authors found that the companies in clusters 2 and 3 had reported a significant degree of selectivity bias and that the favourable bias in the use of materially distorted graphs was significantly higher for cluster 2 companies than for cluster 1 ones. In general, the results suggested that companies operating in less restrictive regulatory environments tend to be more likely to engage in impression management in their use of graphs.

In conclusion, the findings supported the claims made by critics of voluntary sustainability reporting that the practice may be more about public relations (in a more negative sense) than about increasing transparency and accountability in regard to sustainability performance (Cho al., 2012a**).**

Furthermore, Hrasky (2012) collected data from the 200 largest listed Australian companies by market capitalisation in 2007. She also investigated the use of graphs across sustainability domains from companies that were sustainability leaders and compared them to those of companies that were less-sustainability driven. She found

that sustainability-driven and sustainability leading companies adopt significantly different disclosure strategies than companies that are less sustainable. The most sustainability driven companies disclose more graphs than less-sustainability driven ones in communicating quantitative data that are likely to be more reflective of underlying operations and their impacts, and thereby appear to seek moral legitimacy.

2.3 Contributions of this thesis

2.3.1 Analysis of standalone sustainability documents with a focus on visual materials

This thesis conducts archival work, extends the work of Lee (1994), Davison & Skerratt (2007), and Beattie et al. (2008) on annual reports, and adds to the work of Duff (2016) and Pesci & Costa (2014) on sustainability reporting to document the content of GRI standalone sustainability reports.

This study extends the work on sustainability reporting as follows: (i) it investigates the overall length and make-up of GRI-compliant standalone sustainability reports; (ii) it focusses on countries worldwide, diverse industries (high versus low sensitive sectors), and up to date 2014 standalone sustainability reports. Previous studies were mainly based on non-GRI compliant standalone sustainability reports and on UK accounting companies focussing on the year 2008 (Duff, 2016), and on the Italian banking sector's 2009 sustainability reports (Pesci & Costa, 2014); (iii) additionally, the length and make-up of standalone sustainability reports is broken down into numbers, narratives, visuals, blank space, and mixed materials. Previous studies investigated pictures, graphs, and tables, and neglected mixed materials and blank

space; (iv) visuals are sub-categorised into pictures, graphs, diagrams, maps, and charts, which makes for a time-consuming manual analysis.

Additionally, there still remains an open debate regarding the most suitable disclosure measurement in content analysis, and a gap has been found in relation to the absence of visuals in evaluating and measuring disclosure in CSR reports (Unerman, 2000; Beattie & Thomson, 2007). In this context, the adoption of content analysis techniques that do not capture visuals (charts, diagrams, graphs, maps, and pictures) could make the quantification of disclosure incomplete (Unerman, 2000). This study thus contributes methodologically to disclosure measurement in content analysis. It makes the quantification of disclosures more complete by focussing on numbers, narratives, visuals, mixed materials, and blank space.

2.3.2 Visual impression management through graphs in standalone sustainability reporting

With regard to graphs, this thesis extends the work of Jones (2011), Hrasky (2012), and Cho et al. (2012a; 2012b) in various ways.

Firstly, whereas those studies were primarily empirical, with little theoretical discussion, this study provides grounding in theories of impression management and legitimacy. It argues that visuals specifically, graphs may provide incremental information and be transparent carriers of intended organisational messages, or be considered as a tool for impression management intended to attain/maintain legitimacy within society.

Secondly, this study is based on standalone sustainability reporting from countries worldwide, whereas previous work had examined companies from the UK (Jones,

2011), the USA (Cho et al., 2012a), and the UK, the USA, France, Germany, Italy, and Spain (Cho et al., 2012b).

Thirdly, it brings research up to date by examining reports from 2014. The previous work on graphs was based on 2005 reports (Jones, 2011) and 2006 ones (Cho et al., 2012a, 2012b).

Fourthly, it adds the new dimension of the GRI (Global Reporting Initiative) guidelines, and of analysing those companies the reports of which are GRI-compliant. The GRI guidelines were established in 1997 and successive editions were published in 2000, 2002, 2006, and 2013. However, previous work on graphs did not take these important new guidelines into consideration.

Fifthly, it advances the work on sector sensitivity. The study conducted by Jones (2011) was the only one to have hitherto considered this dimension while investigating high impact sectors (e.g., beverage/tobacco/food products, utilities, extractive, construction/real estate, industrial) and low impact ones (e.g., financial, retail, telecommunications/media). This study investigates highly sensitive sectors (chemical, energy, automotive, and mining) and low sensitive ones (financial services, telecommunication, retail, and media).

Sixthly, in contrast to the better-known GDI Graph Discrepancy Index used in prior work, this study uses a little-known measure of graph distortion known as the RGDI Index.

Finally, colour is an important area of visual impression management that is under-researched despite its ability of being pleasing to the eye, arresting reader attention and implying a prioritisation of the information presented (Townsend & Shu, 2010).

This aspect had not been previously researched in graphs. Again, much of this work involves time-consuming manual analysis.

2.3.3 Authorship of standalone sustainability documents with a focus on graphs

To date, there hasn't been any research which had investiged the general preparation and authorship of stand-alone sustainability reports. conducted into the more general preparation of annual reports-exceptions are the work done by Farneti & Guthrie (2009) on standalone sustainability reports, and a project on annual reports currently being conducted at the LSE by the Economic and Social Research Council and aimed at taking a holistic approach to financial communications. Farneti & Guthrie (2009) found that sustainability reporting was done for the purpose of informing a variety of stakeholders. Sustainability reporting information was collected internally, and neither the accounting nor the finance teams were involved in matters associated with sustainability reporting.

This study extends Farneti & Guthrie's (2009) work by focussing on the process and preparation of GRI-compliant standalone sustainability reports by large private organisations. It also investigates the process of visual presentation and the people involved in the decision-making in GRI-compliant standalone sustainability reports. This work is a preliminary investigation. Semi-structured interviews were conducted with six key preparers in six GRI-compliant companies, three mining and one energy from the highly sensitive sector, and two financial service companies from the low sensitive sector. As a consequence, the research answers the call made by Merkl-Davies and Brennan (2007) for further surveys of top managers that might provide valuable insights into their underlying motivations for disclosing discretionary information. This thesis also differentiates itself from others for the use of methods

such as interviews and questionnaires, which are currently lacking in the accounting-related visual literature **(**Davison, 2015**).**

Summary and key findings

Overall, the findings of the reviewed studies suggest a growing trend in the publishing of sustainability reports and a wide implementation of the GRI guidelines to assist companies in reporting their environmental and social information. Most prior studies argued that the GRI guidelines have not improved the transparency and accountability dimensions of the environmental, social, and economic reports and are being only used symbolically for impression management and legitimacy purposes.

The findings also show that visuals are reflected in standalone sustainability reports and have been employed for purposes of impression management and legitimacy. The evidence also suggests that the GRI guidelines are under-researched in the visual impression management literature, having only been investigated by Boiral (2013) in his analysis of the imagery found in standalone sustainability reports. However, Boiral (2013) has examined 23 companies' stand-alone sustainability and from only two sectors. The current study investigates 69 worldwide companies from eight different sectors. This suggests that further research from a large sample size is needed in the area of visuals, and specifically graphs, in GRI-compliant standalone sustainability reports

Chapter Three: Theoretical frameworks

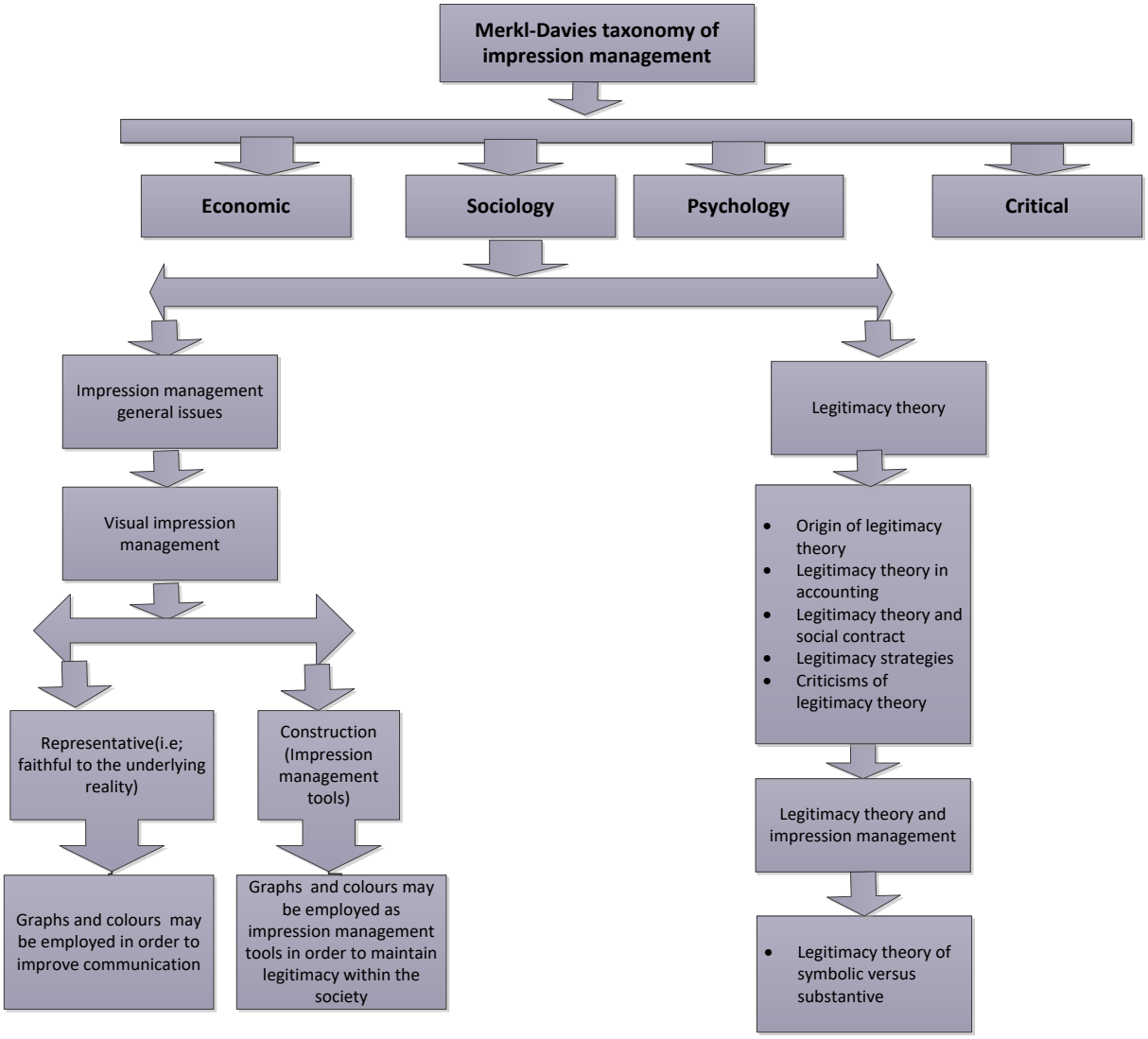
3.1 Introduction

This chapter is tightly linked with the research objective, comprehensive review of prior literatures were discussed in chapter two. This chapter presents visual impression management theory-blended with legitimacy theory as the theorectical lens which will be adopted to carry out analysis in this PHD research study. This chapter is divided into three main sections. Firstly, it presents an overview of impression management, which includes an analysis of how impression management and visual impression management are defined, used and understood in the literature in the context of corporate reporting (annual reports and sustainability reports) and how they are linked to the context of GRI-compliant standalone sustainability reports which is the focus of the current research study. This section is discussed under the following headings: general issues; the taxonomy of overarching impression management theories (economic, sociological, psychological, and critical); and visual impression management (pictures/photographs, graphs, and the use of colour).

Secondly, a further discussion of legitimacy theory will be conducted in conjunction with the presentation of existing literature to provide an in depth explanation of how legitimacy theory was used by prior researchers. This section is discussed under the following headings: the origin of legitimacy theory; legitimacy theory and the social contract; the use of legitimacy theory in accounting; legitimation strategies; and criticisms of legitimacy theory.

Finally, a reflection is presented on the combination of impression management theory and legitimacy theory and how it serves as the theoretical framework for this PHD research study. There are two contentions to the current theoretical framework, on the one hand, it argues that visuals speciafically are employed by companies as a notion of representation. On the other hand, it argues that they may be constructed for impression management purposes in order to maintain legitimacy within society. This is shown in diagram form in Figure 4.

Figure 4: Diagram of visual impression management



3.2 Impression management theory

3.2.1 General impression management issues

Impression management entails organisations constructing an impression with the intention of appealing to their audiences, including shareholders, stakeholders, the general public, and the media. If such construction is successful, it undermines the quality of financial and non-financial reporting and may thereby result in the misallocation of capital. What is more, the wider social and political consequences include unwarranted support by non-financial stakeholders or by society at large. This is viewed as falling into the broad category of voluntary disclosure research and is conceptualised as biased discretionary disclosure (Brennan et al., 2013).

As a topic, impression management is not new to those interested in the study of human behaviours. Even prehistoric and primitive peoples concerned themselves with self-presentation. Cosmetics, clothing, jewellery, and other aids aimed at enhancing physical attractiveness are universally employed to present positive identities to others. **"*Thus, the idea that people project identity to one another and form identities out of the reactions to them has been around for a long time; however, only in this century have social philosophers incorporated the interactive process into their thinking*"** (Tedeschi, 2013:19). It is a common phenomenon that is evident in a variety of different social, cultural and organisational settings.

The idea that people actively manage the impressions that others form of them was first part of the sociologist literature (e.g., Goffman, 1959; Tedeschi, 2013). Goffman (1959) illustrated how, in social settings, individuals try to convey particular impressions of themselves to third parties. In his seminal book, *The Presentation of Self in Everyday Life*, Goffman (1959) discussed the importance of self-presentation

in defining an individual's place in the social order, in setting the tone and direction of an interaction, and in facilitating the performance of role-governed behaviour. As a sociologist, Goffman (1959) was interested primarily in the role played by self-presentation in the construction of social reality. Goffman (1959) argued that people engage in self-presentation to control the reactions of others to themselves. The primary aim of impression management is to be viewed by others as one oneself desires; generally speaking, as favourably as possible. Impression management is seen as an important competency in dealing with external stakeholders (Rosenfeld et al. 1995., cited in Mather et al., 2000).

Similarly, Jones (1964) and his colleagues cited in Leary & Kowalski (1990) extended self-presentation to include people's attempts to control others' impressions of their personal characteristics and sparked a psychological interest in impression management. Jones (1964) cited in Jones & Pittman (1982) subsequently contributed theoretical perspectives and a great deal of empirical research to the study of self-presentation.

Schlenker (1980) proposed an expectancy value approach to self-presentation. He argued that every image that a person might claim has potential benefits and liabilities, and outcomes that differ with regard to both their value to the individual and their perceived probability. According to Schlenker (1980), people are encouraged to claim those images that have the highest potential value, although other factors such as the sanctions that may ensue should one fail in an attempt to claim an image also determine how motivated people will be to claim a particular image. Jones & Pittman (1982) argued that self-presentation reflects one's motives to augment one's power over others. By shaping the others' attributions of one's disposition, one can influence their behaviours in a conscious way.

Baumeister & Tice (1986) cited in Leary & Kowalski (1990) discussed two motives that underlie self-presentation.

On the one hand, people may play to an audience in an attempt to affect their behaviours- a purely social function. On the other hand, people may attempt to make their public selves consistent with their ideal selves.

Leary & Kowalski (1990:34) argued that people have an ongoing interest in how others perceive and evaluate them. They stated that **"*Each year, Americans spend billions of dollars on diets, cosmetics, and plastic surgery, all intended to make them more attractive to others. Political candidates are packaged for the public's consumption like Automotivesand breakfast cereals. Parents stress to their children the importance of first impressions and, when trying to control public misbehaviours, may admonish them to consider 'What the neighbors will think'*"**. Leary & Kowalski's (1990) conceptualisation of self-presentation considers those who had defined impression management or self-presentation only in terms of fostering an impression in the eyes of others (Arkin et al., 1986; Baumeister & Tice, 1986; Baumeister, 1982; Goffman, 1959). They also claimed that managers have major motivations to engage in impression management. Firstly, managers would engage in opportunistic behaviours aimed at maximising their returns and minimizing their expected punishments. Managers will engage in impression management if it has a chance of attaining one or several goals. Secondly, individuals attempt to engage in impression management to ensure that their public images are consistent with their social images. Thirdly, Leary & Kowalski (1990) argued that impression management may constrain the strategies implemented. For example, public failures or embarrassments may induce individuals to engage in impression management to counter or repair their damaged image (Merkl-Davies &

Brennan, 2007). Other motives of managers may include benefitting from increased compensation, particularly via managerial stock options (Rutherford, 2003). Hence, impression management is purposely employed by organisations to influence an audience's perceptions of itself (Elsbach et al., 1998).

3.2.2 The taxonomy of overarching impression management theories

To explain managerial impression management motivations, Merkl-Davies & Brennan (2011) developed a taxonomy based on four perspectives namely: (i) economic, (ii) psychological behavioural, (iii) sociological, and (iv) critical. They provided alternative ways of conceptualising impression management in corporate reporting contexts. These perspectives are based on various assumptions regarding the types of rationality underlying the behaviours of managers and organisational audiences and the motivation for providing discretionary information.

Economic perspectives

The economic perspectives are based on agency theory, which focusses on the relationship between managers and investors, which is characterized by contractual obligations and utility maximisations. Discretionary disclosures can be regarded as opportunistic impression management behaviours. Managers use impression management to maximize their income; therefore, they will exercise judgment to tailor financial reports in order to mislead stakeholders about the underlying corporate performance (Healy & Wahlen, 1999).

The relationships between managers and investors are regarded solely in terms of market exchanges. Managers employ impression management opportunistically by exploiting any information asymmetries between managers and investors,

emphasising on valence (i.e., favourable or unfavourable) and tone (i.e., optimistic or pessimistic) of the disclosures.

Impression management entails managers emphasising positive organisational outcomes or obfuscating negative organisational ones by means of spectrum tools. This, in turn, gives rise to conflicts of interest between managers and shareholders. Managers divert shareholder attention from any financial distress by manipulating outsiders' perceptions of financial performance and prospects. Managers and shareholders are both regarded as rational, self-interested decision-makers. Corporate reporting and investment decisions are taken based upon cost-benefit calculations and involve responding to inputs from the external environment. As managers act as agents of the shareholders, their remuneration and wealth are linked to the financial performance of the companies that recruit them. Managers are thus considered to have economic incentives to disclose information.

Previous studies supported the economic perspective of impression management, which explains managerial discretionary disclosure strategies as opportunistic and driven by self-interest (Hooghiemstra, 2000; Merkl-Davies & Brennan, 2007; Rutherford, 2003). This is also consistent with positivist theory, which assumes that markets are efficient and that the actions of all individuals including managers are driven by self-interest, such as a desire to maximize income and minimise risks. The evidence suggests that **"*impression management occurs when management selects information to display and presents that information in a manner intended to distort readers' perceptions of corporate achievement*"** (Godfrey et al., 2003:96). This involves manipulating the presentation and disclosure of both verbal (e.g., reading ease manipulation, rhetorical manipulation, thematic manipulation, visual and structural manipulation, and attribution of performance) and numerical

information (e.g., visual and structural manipulation, performance comparison, choice of earning figures).

The specific types of opportunistic behaviours include the use of private information (Carpenter & Remmers, 2001) and the use of earning management (Bartov & Mohanram, 2004). Aboody et al. (2004) found that company CEOs make opportunistic voluntary disclosures that maximise their stock options compensation and actively manipulate the timings of disclosures to fit pre-determined trading objectives (Cheng & Lo, 2006).

Sociological perspective

The sociological perspective conceptualises impression management as symbolic. Managers manipulate the audiences' perceptions of the congruence of organisational practices with social norms and values. The focus of analysis is on the perception of organisational legitimacy. Impression management stems from the structural constraints exerted either by spectrum groups or by society at large. Impression management is regarded either as a response either to the concerns of various stakeholders or to public pressure and media attention relating to controversial issues or events (stakeholder theory) or arising from inconsistencies between organisational and social norms and values (legitimacy).

O'Donovan (1997) interviewed senior executives from three large Australian companies (i.e., Amcor Ltd, BHP Ltd, and ICI Australia Ltd) and found that they reported that media did shape community expectations. The author suggested that corporate disclosures of environmental performance are effective means to correct any misperceptions held or presented by the media. This is consistent with media agenda setting theory perceptions, by which mediatic attention to environmental

issues will impact community expectations. Managers may adopt strategies aimed at making their organisational processes or institutionalised practices appear to conform to social norms and values (Merkl-Davies, 2011).

The sociological perspective of impression management is commonly used in the context of environmental reporting in which managers may also use rhetoric to persuade organisational audiences of the environmental credentials of their organisations (Livesey, 2002). Companies are assumed to engage in impression management in concomitance with incidents that violate social norms and values, such as accidents, (e.g., Hooghiemstra, 2000) product health and safety incidents (Elsbach, 1994), and corporate scandals (Breton & Côté, 2006). Managers may be prompted to employ impression management in anticipation of shareholders and stakeholders potentially responding in undesired ways; for example, in the form of unfavourable analytical reports, attacks on credit ratings in news reports, or in the form of withdrawing community support from companies (Prakash & Rappaport, 1977). Managers are motivated to disclose voluntary information because failing to do so may reduce their discretionality over future investment opportunities (Watts & Zimmerman, 1978).

Managers may also engage in impression management as a means of legitimising actions and in order to justify decisions (Hooghiemstra, 2000), to deflect criticisms (Prasad & Mir, 2002), and to forestall interference by external parties such as trade unions, government agencies, and environmental groups (Hines, 1989).

Psychological perspective

The psychological perspective argues that managers employ self-serving bias in anticipation of an evaluation of performance by shareholders and stakeholders and with the aim of winning awards and avoiding sanctions (Frank & Ferris, 1998, cited in Merkl-Davies & Brennan, 2011). Attribution theory is used to explain self-serving bias, in which managers take credit for successes and deny responsibilities for failures (Knee & Zuckerman, 1996). Some theorists have also claimed that self-presentation not only entails attempts to manage impression management in regard to others, but also efforts to manipulate the managers' impressions of themselves (Greenwald & Breckler, 1985).

Studies on attribution theory (Aerts, 2005; Barton & Mercer, 2005) have argued that managers can attribute any good performance of their organisations to internal factors and any negative ones to external factors. For example, in a study of companies from the US and Japan, Hooghiemstra (2000) found that organisations always attribute negative outcomes to external factors, regardless of performance.

Similarly, Guillamon-Saorin (2006) found evidence of companies enhancing positive outcomes regardless of performance, illustrating that organisations with both positive and negative performances engage in these techniques. For example, managers have highlighted the September 11th terrorist attacks and the downturn of the economy as explanations for their companies' subsequent poor performance. This was made evident in the experimental study conducted by Barton & Mercer (2005) on 94 financial analysts, which found that any disclosures that blame poor performance on external factors tend to increase the analysts' earnings forecasts and stock valuations when the analysts assume that the disclosures are plausible. For example, Ford Motor, Winn Dixie, WebMD, and Delta Airlines recently blamed

poor performance results on the September 11th, 2001 terror attacks. The explanations given by these companies were considered to be plausible by the analysts (Farrell, 2001, cited in Merkl-Davies & Brennan, 2011). Hence, those self-serving attributions appeared to be convincing to the investing public, since the use of these attributions was associated with subsequent improvements in stock price.

Critical perspectives

The aim of the critical impression management perspective is to explore hidden interests in corporate reporting. This involves analysing the linguistic means by which dominant constructions of reality are achieved. For example, Prasad & Mir (2002:96) argued this point in relation to letters sent by the CEOs to shareholders during the 1970s and 1980s. They aimed to expose hidden meanings in corporate narrative documents that seem to be socially interesting and politically powerful.

Studies that take a critical perspective predominantly emphasise the use of impression management in concomitance with controversial issues and legitimacy threatening events such as difficult financial circumstances (Amernic & Craig, 2000) and privatisations (Craig & Amernic, 2008).

Managers employ impression management as a form of routine corporate communication by which they control the way in which a corporate story is interpreted (Aras & Crowther, 2009). Impression management is regarded to stem from the desire of powerful managers to impose their perspectives of organisational activities and outcomes (White & Hanson, 2002) on specific stakeholders with whom they are in conflict (Prasad & Mir, 2002), and from any socio-economic and socio-political issues affecting their activities or images—such as climate change, minimum pay levels, or human rights (Livesey, 2002).

Summary

To some degree, all four perspectives are present in visual impression management, but the dominant theoretical perspective for the purposes of this thesis is the sociological one.

3.2.3 Visual impression management

Visualisation is ubiquitous in contemporary society (Gabriel, 2012, cited in Davison, 2014) and is crucial to all aspects of accounting (Davison, 2010). Visualisation in corporate reports takes place in charts, sketches, diagrams (Mouritsen et al., 2001), pictures and photographs (Mckinstry, 2009; Preston et al., 1996, cited in Mouritsen et al., 2001), financial graphs (Beattie & Jones, 2008), environmental and social graphs (Cho et al., 2012a,2012b; Hrasky, 2012; Jones, 2011), cartoon graphics (Smith & Taffler, 1996), press releases, video presentations, and web pages (Cho et al., 2009).

Visualisation is unique and fundamentally distinct from verbal communication due to the immediate and multisensorial impact that comes from viewing an image which combines rationality with emotionality (Spencer, 2011, cited in Bell et al., 2014). Visual design techniques have become **"*heavyweight ingredients, in the richness and potency of their messages*"** (Davison, 2007:137) and **"*integral elements within corporate annual reports*"** (Preston et al., 1996:113). The evidence suggests that the use of visuals can be both representative (i.e., faithful to the underlying reality), constructive (i.e., invented for impression management), or both (Davison, 2014). This is consistent with Merkl-Davies's (2007) contention that discretionary disclosures either (a) contribute to useful-decision-making by overcoming any informational asymmetries between managers and company outsiders or (b) constitute opportunistic behaviours. Impression management involves **"*managers using judgment in financial reporting … to alter financial reports to … mislead some stakeholders about the underlying economic performance of the company*"** (Healy & Wahlen, 1999:368, cited in Merkl-Davies, 2007). Whereas incremental

disclosures provide value-relevant information about future cash flows and results in improved decision making, impression management leads to potential capital misallocations (Holthausen, 1990, cited in Merkl- Davies, 2007).

Visual construction involves not only choosing the kind of impression to create, but deciding precisely how organisations will go about it (such as deciding whether to create the designed impression via self-description and non-verbal behaviours) (Leary & Kowalski, 1990). For representation to be possible, **"*an external reality exists independently of the financial representations that describe it*"** (Shapiro, 1997:167, cited in Davison, 2010). Davison (2010:167-168) argued that **"*those arguing against accounting as the representation of an external reality raise common objections*".** One such objection is that, although only physical phenomena are 'real', financial statements also include **"*values of socially constructed phenomena involving economic, legal and other features (such as cash and receivables)*",** which in turn exist only in people's beliefs and attitudes (Manicas, 1993, cited in Davison, 2010). Financial representations are regarded to be 'true' if they match selected features of an independently existing and broadly defined reality (if such a thing exists) (Manicas, 1993, cited in Davison, 2010:168). A belief in representational faithfulness underlies a 'full and fair disclosure' or a 'true or fair view' in accounting, latterly termed 'fair presentation' under international standards (IASB, 2007:15-20, cited in Davison, 2010). Much literature (Nobes, 2008; Parker et al., 1996) has suggested that a 'true and fair' view is a complex term in accounting cited in Davison (2010). Therefore, it is often argued that such representational faithfulness is elusive, correspondence is reserved, for example, by accounting conventions and available measurement methods. Additionally, the degree of

representational faithfulness depends on people's beliefs, attitudes, or opinions regarding the represented external reality.

To date, accounting has not devoted enough time to pictures and images (Quattrone, 2009, cited in Davison, 2014). Visual materials have come to occupy a well-documented prominent role in contemporary financial reporting (Beattie et al., 2008; Davison & Skerratt, 2007; Lee, 1994) and are employed by companies as tools for impression management.

Photographs/Pictures

In many respects, photographs/pictures constitute an intricate, inter-linking, and overlapping mélange of representation and construction (Davison, 2010). They lie at a complex crossroads between reality and creation, objectivity and subjectivity, incremental information and impression management, where the nature of 'reality' and 'representational faithfulness or 'truth' are often elusive (Gombrich, 2002; Shapiro, 1997, cited in Davison, 2010). The pictures found in annual reports carry plural and simultaneous messages, and are open to analysis from a variety of perspectives. Pictures simultaneously play representational, ideological, and constructive roles. As noted by Preston et al. (1996:116) **"*no way of seeing totally exhausts an analysis of visual images … each way of seeing offers valuable insights that may be ignored by the others*".** Pictures/photographs are powerful media and, while they may relate less directly to accounting numbers than do graphs and charts, they relate more directly to the organisations and societies that lie behind the accounting statements (Davison, 2014).

Evidence also suggests that visuals are important to both our individual and our collective memories; for example, in the image of ascension (Davison, 2004; Jung,

1980, cited in Davison, 2014). Since ancient times, our minds have stored memories visually and have worked creatively through mental maps, patterns, and images: **"*A memory is a mental picture … inscribed in a physical way …. retention and retrieval are stimulated best by visual means*"** (Carruthers, 1990:16-17, cited in Davison, 2014). Other studies considered the relationships between picture processing and memory (Spoehr & Lehmkuhle, 1982) and observed the importance of coherent visual structures for a good understanding. Experimental psychology also suggests that pictures occupy a more powerful place than words in cognitive memory and assist in communicating complex messages with simplicity (Anderson, 1980, cited in Davison, 2014). Tversky (1975) also found that, when presented with both verbal and pictorial materials, subjects devote twice as much time to examining the latter.

However, the pictures/photographs published in annual reports may be construed as neutral representation (see, for example, the documentary evidence illustrated by Mckinstry, 2009) and for content analysis of issues such as gender and diversity (Benschop & Meihuizen, 2002; Bernardi et al., 2002, 2005; Duff, 2011). The findings from these studies showed that pictures and photographs may be regarded as incremental information and transparent carriers of intended organisational messages (Preston et al., 1996). On the other hand, pictures/photographs may be considered as impression management tools (Davison, 2010; Goffman, 1959; Schlenker, 1980). This suggests that, in theory, managers are incentivised to represent their company's performance in the best possible light, which may result in 'selective' financial representation (Revsine, 199., cited in Mather et al., 2000).

Graphs

To a greater extent, **f**ormal theories have emphasised the higher level of cognitive tasks involved in graphical perception, to which theory from cognitive psychology has been applied (Kosslyn., 1985, 1989). Kosslyn (1989) argued that the human capacity to remember visual patterns is superior to that pertaining to textual or numerical tabulations. This concurred with Pinker's (1990:73, cited in Beattie & Jones, 2000b) comment: **"*a striking fact about human cognitions is that we like to process information in a graphical form*".**

Wainer (1992) argued that our ability to retrieve data from simple, well-composed graphs is now assumed to be 'hard wired' into the brain. Visual impression management is affected in a manner that is sympathetic to companies (Beattie & Jones, 2008) and helps in the promotion of perceptions that can be effectively absorbed by a broader range of accounting information users. The visual saliency of graphs is enhanced using colours within rather formal and forbidding statutory documents.

Based on psychological theory and experiments, statistical graphics researchers have produced a theory of graph comprehension (i.e., graphical perception and visual processing). They have developed a specialist theory of graphical perception (i.e., the visual decoding of a graph's quantitative information) using the theory of visual information processing (Kosslyn, 1989). The argumentation is that, in reading a graph, we initially perform rapid visual scans to detect the geometric patterns that form the basis of our inferences pertaining to the data's behaviour. These initial perceptual tasks may (but, importantly, also may not) be followed by more highly cognitive tasks such as scale reading. Graphs represent an especially potent and persuasive type of visual device (Amann & Knorr-Cetina, 1990), a conclusion shared

by a growing number science rhetoricians (Gross, 1990), and scholars who analyse scientific data displays (Tufte, 1983). In his classic essay *Drawing Things Together*, Latour (1990, cited in Mather et al., 2000) laid out the features that make graphs so powerful. First, they are readable, capable of rendering complex data sets into easily apprehended images that exploit the human capacity for perceiving visual patterns. Second, graphs are scalable, meaning that, through simple alterations of scale, they can make visible a variety of phenomena ranging from quarks and ion pumps to gross national products. Third, being easily manipulated artefacts, graphs are combinable, which enables them to be collated and superimposed in various ways. Such combinations can reveal novel connections between seemingly unrelated phenomena and encourage the abstraction from details to generalities by facilitating comparisons between different data sets or between data and theoretical curves. The manipulation of graphs into varied combinations thus enables scientists to see phenomena synoptically by 'drawing things together', a feature that contributes to theoretical integration. Fourth, graphs are persuasive, they serve to convince other scientists of the validity of one's evidence, thereby aiding in the recruitment of allies to one's view point.

Revsine (1991, cited in Mather et al., 2000) used the concept of 'selective financial representation' in explaining the motives for engaging in the impression of graphs. Revsine (1991) argued that managers are incentivised to represent their companies' performance in the best possible light. Graphs, being voluntary, provide managers with enhanced opportunities to manipulate the financial signals sent to users. The graphs' potential for impression management increases due to their unaudited nature.

Merkl-Davies (2011) argued that impression management construction can be accomplished either by emphasising positive organisational outcomes (enhancement)

or by obfuscating negative ones (obfuscation). Enhancement entails the presentation of an accurate, but favourable, depiction of corporate activities, whereas obfuscation involves presenting images that are not accurate (Leary et al., 1994 cited in Merkl-Davies, 2011). This classification fits well with the evidence of graphs being used as tools of impression management in financial reports (see, e.g., Beattie & Jones, 1992; 1997; 1999; 2000a; 2000b; Courtis, 1997; Muino & Trombetta, 2009; Steinbart, 1989) as shown in paragraph 2.1.3 of chapter two and in standalone sustainability reports (Jones, 2011; Hrasky, 2012; Cho et al., 2012a, 2012b) as shown in paragraph 2.1.5 of chapter 2.

This study is interested in the use (and potential misuse) of graphs in GRI-compliant standalone sustainability reports. The lens of impression management is used to frame the study of graphs in an environmental and social context. This lens suggests that companies may strive to emphasise any good news and downplay any bad news. Companies will be selective in their use of environmental and social reporting graphs, seeking to give a favourable rather than unfavourable impression of their activities. They will, therefore, seek to select news that will present their environmental activities in a good light (for example, graph trends showing a reduction rather than an increase in air pollution or an increase rather than a decrease in recycling). Moreover, when drawing the actual graphs, companies are expected to be more likely to distort graphs favourably rather than unfavourably (e.g., a rising trend in greenhouse gas emissions would tend to be represented as rising less steeply than warranted). A possible outcome of such behaviours is that the message will no longer be neutral or unbiased. Hence, the manipulation of graphs conflicts with a commonly expressed purpose of accounting, which is to present annual financial performance in a neutral and unbiased manner.

Colour

The use of colour is widespread in annual and standalone sustainability reports and is regarded to play a role in emotional reactions. Colour is fundamental to sight, identification, interpretation, perceptions, and senses (Courtis, 2004).

Photographs, graphics and animations mostly appear in colour. Jeffrey & Beck (1972) revealed that colour may improve the overall comprehension of issues and the understanding of a problem, while producing less eye strain and fatigue. Colour may also play an important role in cognition and memory. For example, Borges, Stepnowsky & Holt (1977, cited in Wichmann et al., 2002) found that, for adults, recognition memory worked better with coloured pictures and words than with their black and white versions. Similarly, Suzuki & Takahashi (1997, cited in Wichmann et al., 2002) found a significant recognition memory advantage for colour pictures of urban scenes over black and white photographs during immediate recall, which became even more pronounced after a one-week retention interval. If colour is applied strategically, it can create order out of chaos and help the readers to concentrate on mental tasks (Birren, 1997, cited in Courtis, 2004). Colour is both a visual and psychological stimulus, it is capable of inducing mood formation with regard to attitudes or feelings, adds to the speed of information, and may assist in information understanding (Courtis, 2004).

Adams & Osgood (1973) argued that one possible source of explanation is the physiology of vision; for example, is there something about wave lengths in the red region of the spectrum that particularly stimulates colour receptors, leading to the association of red with strong emotions? Another possible source is the common relationship of human beings to the world in which they live; in every locale, blue sky and green plants are good things; red blood is vital; clean, light-coloured things

are better than dark, dirty things. A third possible source is common cultural belief, either stemming from ancient common origins or from more recent cultural influences. The authors concluded that all three aspects (physiological, environmental, and cultural) will probably be needed to account for the apparently universal trends in the affective meanings of colour.

Despite the ability of colour to impress and to affect moods and behaviours, its potential impact as an aspect of visual rhetoric has only been examined by Courtis (2004), and not in the context of standalone sustainability reports. However, Courtis (2004) made an important contribution; he discussed various theories including the power of colour and Levy's *Research into the Psychological Meaning of Colour*. His underlying motivation was to explore, modestly and tentatively, whether the use of colour within financial reporting makes any difference. Courtis (2004) argued that the underlying motivation behind any specific application of colour is likely to be linked to one or more of three intentions. Firstly, colour may be employed to make the communication vehicle more appealing, so that it can compete more effectively for user time within a set of media. Secondly, colour may be used to highlight important information and to direct the analytical attention of users. Thirdly, colour may be used to divert user attention away from distressing or negative information or to de-emphasise any aspects of performance that might cast managers in a poor light. In each case, colour is used to persuade as an attribute of visual rhetoric. As such, it is a subtle form of persuasion and can contribute towards perception engineering. In brief, colour persuades the reader to devote time to specific information. So, while its use may be instructive, it may also be distracting (Courtis, 2004). Therefore, within annual reports, colour is used widely and internationally as an integral component of visual rhetoric.

Kenney & Scott (2003, cited in Courtis, 2004) applied the concept of visual rhetoric to an expanded notion of both pictures and language whereby someone is trying to get someone else to do or think or feel something. They argued that colour is used as a form of human communication that seeks to persuade through the use of picturing. The sender of a message is seeking to persuade the receiver, and has thus chosen from a range of options, such as pictures, words or colours (or all three), the one that is more likely to have the desired effects (Kenney & Scott, 2003, cited in Courtis, 2004). Visual rhetoric assumes that a message's various visual and verbal elements jointly convey its meanings and effects (Courtis, 2004).

Furthermore, the empirical evidence of what colours are used in financial reporting is scant. In 1993, the Canadian Institute of Chartered Accountants surveyed the annual reports of 200 listed public companies. Their study, which focussed on the use of graphs, found that the most used colours were blue, green, purple, red, grey, and yellow. This ex post facto list provides no insights into how and why corporations select certain colours, nor does it reveal how readers will react to certain colours in different annual report applications. Moreover, this list is more likely to be culturally specific in regard to what colours are popular. However, Courtis (2004) argued that deliberate image management and perception engineering could employ the use of colour to either enhance 'good news' or divert attention from 'bad news'. Drawing from Courtis's (2004) contentions, this study argues that colours may be used in standalone sustainability reports as visual rhetoric tools to persuade readers favourably about environmental and social performances. This argument is also based on legitimacy theory, which argues that managers seek to use colours to portray a better performance than is warranted in order to gain/maintain legitimacy with society.

Additionally, specific colours (blue, green, grey, orange, purple, and red) are regarded to have strong meanings. For example, blue is associated with wealth, trust, and security; grey is associated with strength, exclusivity, success, and dependability (Courtis, 2004); and orange denotes cheapness (Adams & Osgood, 1973).

Courtis (2004) revealed that green is seen objectively as cool, fresh, clean, pleasing, balanced, and normal, and linked to safety and good environmental practices. Thus, colours may be used as a persuasive form of visual rhetoric.

This study's expectation would be that companies will make greater use of blue, green, and orange to improve communication. Or alternatively, they may employ them in graphs as visual rhetoric for impression management purposes. If they are used for communication effectiveness, they may assist the understanding and enhance the clarity of the information presented in graphs. They will also direct attention to specific neutral information that, in turn, may be linked to key factors in an investor's decision-making (Courtis, 2004). However, if used for impression management purposes, they will divert user attention away from any distressing or negative information to de-emphasise such aspects of performance. This, in turn, might show managers in a poor light and may be employed as visual rhetoric for impression management purposes (Courtis, 2004). Thus, the manipulation of colour in graphs conflicts with a commonly expressed purpose of accounting, which is to present annual financial information in a neutral, unbiased manner.

3.3 Legitimacy theory

3.3.1 The origins of legitimacy theory

The legitimacy concept, with its roots in institutional theory and socio-political research, is a highly influential theoretical perspective within the domain of corporate environmental reporting research.

The concept of legitimacy theory has been employed in many areas. Rosen (1979) highlighted how the term 'legitimacy' derives from the classical Latin "legitimus", which means 'according to laws'. Previous studies indicated that the laws referred to are not restricted to those enforced by a legal system, but extend to the social laws by which moral and ethical behaviours are judged. The acceptance of established social norms and values is also consistent with often-employed applications of the term legitimate. As an example, Sutton (1993, cited in O'Donovan, 2002) argued that "legitimacy" originated from the philosophy and laws of politics in the Middle Ages. Since then, it has acted as a measure for the right and wrong uses of power. Hence, the term 'legitimacy' is significantly employed with reference to the dual concept of 'power' and 'authority'. These terms are related and based on Weber's writings; Mitchel et al. (1997) best explained the connection with the phrase**: "*Power gains authority through legitimacy*"** (Mitchel et al., 1997:869, cited in O'Donovan, 2002). This means that, on its own, power cannot guarantee authority unless the holders of such power are considered to be legitimate.

Legitimation is regarded to be applicable to any form of organisation that has power and authority over others and there is a chance that such power and authority could become unjustified. Corporate managers (the power holders) have power in making decisions about how to use the organisational resources, while shareholders (the

groups over which power is exercised) may variously exercise their right to approve or disapprove of power. Corporate entities rely upon the approval of at least two distinct groups of stakeholders (Clarkson, 1995; Donaldson & Preston, 1995, cited in O'Donovan, 2002). The first group includes shareholders, employees, and financiers, upon which managers depend for resources. The second group is society, upon the goodwill and approval of which a corporation relies in order to continue its operations. The essence of the relationship between corporations and stakeholders is what conceals legitimacy and the management of this relationship is the essential premise underpinning legitimacy theory.

3.3.2 Legitimacy theory and the social contract

Legitimacy theory is based on the concept of a 'social contract' that continually seeks to ensure that organisations operate within the norms and bounds of their respective societies (Brown & Deegan, 1998; Dowling & Pfeffer, 1975; Guthrie & Parker, 1989). The theoretical constructs of the social contract is not new; it has been discussed by philosophers such as Thomas Hobbes (1588-1674), John Locke (1632-1704), and Jean-Jacques Rousseau (1712-1778) (cited in O'Donovan, 2002). Locke's version of the 'social contract' emphasised a contract between the governors and the governed. Rosseau's idea of the social contract was much more profound; it existed between all members of society, and essentially replaced 'mutual' rights as the basis for human claims. The concept of the 'social contract', which has long been used in philosophical and political literature, has only recently been embraced within accounting research.

The social contract entails both explicit terms, spelled out in the form of legal requirements, and implicit ones, which include non-legislated societal expectations

(Gray et al., 1996). The implicit terms may eventually be enshrined in clearly defined legislations but, until that happens, managers can vary in their interpretations of these terms, and in their responses to them. 'Social contract' is a complex term and one that is not easy to define. Deegan & Unerman (2011) argued that the concept is employed to represent **"*the multitude of implicit and explicit expectations that society has about how organisations should conduct their operations*".** Organisations are therefore required to disclose their social and environmental information for society to assess whether they are good corporate citizens.

The concept of 'social contracts' between businesses and individual societies illustrates that, while the main goal of a business is to generate profits, it also has a moral obligation to act in a socially responsible manner (Shocker & Sethi, 1974, cited in Patten, 1992b). It is assumed that an organisation's survival will be threatened if society perceives that it has breached the social contract. If society is not satisfied that an organisation is operating in an acceptable or legitimate manner, then it will effectively revoke the 'contract' that would enable the organisation to continue its operations. This could be detrimental and could jeopardise the organisation's very existence (Deegan et al., 2002). This could be observed in consumers reducing or eliminating the demand for the business's products, suppliers eliminating the supply of labour and financial capital to the business, or constituents lobbying the government for increased taxes, fines or laws aimed at prohibiting those actions that do not conform to the community's expectations. As argued by legitimacy theory, organisations in general are regarded to have no inherent right to resources; rather, they must earn that right. The concept of the social contract has therefore become central to legitimacy theory (Deegan et al., 2002; Patten, 2002).

3.3.3 Legitimacy theory in accounting

Proponents of legitimacy theory (Hackston & Milne, 1996; Lindblom, 1994; Patten, 1992a) suggest that the demand for legitimacy systematically drives the extent of social and environmental disclosures in accounting. Dowling & Pfeffer (1975:23) suggested that **"*while legitimacy is a constraint on all organisations, it is likely that it affects some organisations more than others*".** This is because: (i) some organisations from particularly high-sensitive industry sectors are more visible; and (ii) some organisations depend relatively more heavily on social and political support. High-sensitive industry sectors are regarded to disclose more environmental and social information to secure their legitimacy (Branco & Rodrigues, 2006) as they are predisposed to be subjected to more public scrutiny than low-sensitive ones (Patten, 2002).

Lindblom (1994:3) stated that **"*legitimacy is dynamic in that the relevant publics continuously evaluate corporate outputs, methods, and goals against an ever evolving expectation. The legitimacy gap will fluctuate without any changes in action on the part of the corporation. Indeed, as expectations of the relevant publics change, the corporation must make changes or the legitimacy gap will grow as the level of conflict increases and the level of positive support decreases*".**

Similarly, O'Donovan (2002) argued that the state of any organisation legitimate or illegitimate is not static. It can change when public perceptions of an organisation change, which can happen when it is publicly associated with sensitive social issues; this forces organisations to be responsive to their operational surroundings (Deegan, 2002b).

3.3.4 Legitimation strategies

O'Donovan (2002) argued that, in order to reduce the legitimacy gap, companies may adopt tactical and disclosure approaches. For example, the author argued that corporations adopt legitimacy strategies to seek legitimation. O'Donovan (2002:356) argued that the 'legitimation' techniques/tactics chosen will differ depending upon whether the organisation is trying to gain or extend its legitimacy, to maintain its current level of legitimacy, or to repair or defend any loss of or threat to its legitimacy.

Similarly, O'Donovan (2002) recommended some tactics to be adopted by an organisation that is encountering legitimation threats:

- An organisation can adapt its output, goals, and methods of operation to conform to the socially accepted definitions of legitimacy
- An organisation can attempt, via communication, to alter the definitions of social legitimacy in order to bring them to conform to its current practices, outputs, and values
- An organisation can attempt, via communication, to become identified with symbols, values, or institutions that have a strong legitimacy base

Suchman (1995) argued that the management of legitimacy depends heavily on organisational communication. Legitimacy theory suggests that organisational communication is used to increase organisational legitimacy, and that increased visibility i.e., increased exposure makes an organisation more desirable to its audiences, and thus more legitimate (Suchman, 1995). Organisations use environmental communication as a way of managing their legitimacy (Brown &

Deegan, 1998; Patten, 1992a) with annual reports representing privileged legitimising tools (Brown, 1997). In terms of crises or controversial issues, such during financial scandals, environmental disasters, and major structural re-organisations, managers use corporate communication to restore organisational legitimacy by persuading audiences that their organisations are re-aligning their structures and procedures to social norms and rules (Elsbach, 2001).

Deegan (2002b) determined that legitimacy theory is based on perceptions and that, to have effect, any remedial strategies must be accompanied by some type of disclosure. Consistent with Dowling & Pfeffer's (1975) legitimisation strategies, Lindblom (1994:9) identified four courses of actions that an organisation can seek to take when its perceived actions are in conflict with the expectations of broader society, all of which rely on the use of external disclosures:

- **"*Educate and inform its 'relevant publics' about (actual) changes in the organisation's performance and activities which bring the activities and performance more into line with society's values and expectations*"**;

This strategy is usually employed to respond to a realization that a legitimacy gap exists due to an actual performance failure.

- **"*Change the perceptions that the 'relevant publics' have of the organisation's performance and activities but not change the organisation's actual behaviour (while employing disclosures in corporate reports to falsely show that the performance and activities have changed*"**.

This strategy is often employed as a response when an organisation believes that a legitimacy gap has arisen through a misperception/misunderstanding on the part of

the broader society within which it operates, or when it just does not want to change its activities (e.g., because of the associated cost).

- **"*Manipulate perceptions by deflecting attention from the issue of concern onto other related issues through an appeal to, for example, emotive symbols, thus seeking to demonstrate how the organisation has fulfilled social expectations in other areas of its activities*".**

This strategy is employed for the purpose of manipulation. For instance, when an organisation is being perceived as having a legitimacy gap due to excessive pollution, it may choose to ignore this fact and emphasise instead its positive sustainable activities e.g., money donations to charity organisations.

- "***Change external expectations of its performance, possibly by demonstrating that specific societal expectations are unreasonable***".

This strategy is selected when an organisation believes that broader society has impractical or incorrect expectations of its responsibilities.

Ashforth & Gibbs (1990) argued that, once they have established legitimacy, organisations generally enter the maintenance phase. They thus listed some maintenance approaches:

- Ongoing role performance and symbolic assurance that all is well.
- Attempts at anticipating and preventing or forestalling potential challenges to legitimacy.

The authors argued that, while in the maintenance phase, organisations may need to extend their legitimacy due to changing circumstances. For example, if an

organisation is in the phase of **"*entering a new domain of activity or utilizing new structures or processes*"** (Ashford & Gibbs, 1990:180), its legitimation activities are often regarded as intense and proactive. Managers attempt to win the confidence and support of any wary potential constituents (Ashforth & Gibbs, 1990).

In addition, maintaining legitimacy is a relatively low-effort process, but a continuous one. Once it is conferred, legitimacy tends to be taken largely for 'granted' as an organisation's constituents' scrutiny is relaxed; they are satisfied with the evidence of ongoing performance and periodic assurances of 'business as usual' (Ashforth & Gibbs, 1990). Just like gaining legitimacy, repairing it requires substantial efforts on the part of organisations; often, these take the form of reactive responses to crises triggered by discrete events. Reactive strategies are employed when stakeholders are dissatisfied with some aspects of their reporting entity's performance, while proactive strategies are employed with the aim of preventing as opposed to narrowing legitimacy gaps (Lindblom, 1994). Through public disclosures of information, reporting organisations can use each of the above strategies either individually or in combinations (Lindblom, 1994; Dowling & Pfeffer, 1975).

Suchman (1995) identified two broad legitimacy-repairing strategies in the literature: a) formulating a normalizing account, and b) strategic restructuring. The sub-strategies employed in formulating normalized accounts include denial excuses, justifications or explanations of events, and apologies or expressions of remorse and guilt (Ogden & Clarke, 2005; Suchman, 1995). A sub-strategy of strategic restructuring is disassociation. These strategies and sub-strategies are employed to avoid the attribution of negative or undesirable qualities to the reporting entities (Odgen & Clarke, 2005).

Therefore, to infer an organisation's motives for communication or disclosure to broader society, it is essential to identify the kinds of legitimation tactics that it is adopting. However, as Lindblom (1994) stated, environmental and social disclosures can be implemented for each of these tactics. Hence, CSR disclosures can be structured in such a way as **"*to narrow the legitimacy gap between how the organisation wishes to be perceived and how it actually is*"** (Campbell, 2000:22). Additionally, Suchman (1995) argued that organisations that are viewed as legitimate will find it easier to attract the economic resources and the social and political support necessary for their continued successful operations. However, because of its dynamic nature (Lindblom, 1994), legitimacy is also a resource that can be manipulated by organisations (Woodward et al., 2001).

3.3.5 Criticisms of legitimacy theory

Although legitimacy theory provides useful insights, it is still regarded to be an under-developed theory. For instance, do legitimising activities work? And, if so, which forms of disclosure media are more successful in changing community views about an organisation (Milne & Patten, 2002)? In addition, there is still limited knowledge of whether particular groups in society are relatively more influenced than others by legitimising disclosures. Moreover, how do managers become aware of community concerns and, therefore, of the terms of the 'social contract'? How do managers determine which segments of society termed as 'conferring publics' by O'Donovan (2002) and as 'relevant publics' by Lindblom (1994) are conferring the much-needed legitimacy? Legitimacy theory therefore ignores any '*struggles and inequalities within society*' (Puxty, 1991). Legitimacy theory is also very broad; therefore, much observed behaviour can seem to fit its explanations, which implies

that its explanatory power is limited. Deegan (2002:21) argued that **"*proponents of legitimacy theory often talk about 'society', and compliance with the expectation of society (as embodied within the social contract); however, this provides poor resolution given that society is clearly made up of various groups having unequal power or ability to influence the activities of other groups*"**.

Previous studies found inconsistencies of evidence when adopting legitimacy theory as an explanatory factor for disclosing CSR practices. For example, Guthrie & Parker (1989) conducted a historical analysis of the social disclosures published in 100 years of annual reports by dominant corporations in the Australian mining/manufacturing industry. They found no support for legitimacy theory as an explanation for social reporting.

Wilmshurst & Frost (2000) conducted a questionnaire survey that asked a sample of CFOs to rank the importance of various factors in environmental disclosure decisions. They then analysed the environmental disclosures published within the annual reports of the companies for which those CFOs worked and found that the influence of competitor responses to environmental issues and customer concerns had predictive power. This provided 'limited support for the applicability of legitimacy theory'. Similarly, O'Donovan (2002) interviewed 29 senior executives from 27 large Irish companies and reported that the managerial motives to engage in corporate environmental and social reporting were only sometimes consistent with legitimacy theory explanations.

Campbell et al. (2003) investigated the environmental and social reporting of five companies representing three FTSE sectors; and found that legitimacy theory may explain disclosures in some cases but not in others. The volume of social disclosure

in company annual reports varies substantially between companies and sectors, and over time. Those companies that, in line with legitimacy contentions, would be expected to disclose more (because of society's negative perceptions) do not always do so, and those companies with lesser apparent legitimacy gaps sometimes disclose more.

Nevertheless, many researchers, for example, Deegan (2002b) still argued that, in spite of its apparent simplicity, legitimacy theory does provide useful explanations for corporate disclosure behaviours.

3.4 Impression management theory, legitimacy theory, and this thesis

A number of studies have linked the use of impression management tactics to sustaining or maintaining organisational legitimacy, especially in the wake of negative events (Ogden & Clarke, 2005). In the accounting literature, impression management theory has been employed to explain organisational responses to legitimacy challenges. As an example, Samkin & Schneider (2010) examined how a major New Zealand entity had employed formal accountability mechanisms and informal reports to justify its existence. The authors conducted a single case study of the Department of Conservation (DoC) 1987-2006. The analysis involved the detailed examination of the narrative disclosures published within annual reports, including statement of service performances over the period of the study. They identified a number of controversial items that had appeared in the printed media between April 1987 and the 30th June 2006 and found that the DoC had employed both assertive and defensive impression management techniques to gain, maintain, and repair its organisational legitimacy in the light of extensive negative media publicity. Assertive impression management techniques had been employed to

maintain and gain legitimacy, while defensive impression management techniques had been employed to repair legitimacy.

Cho & Roberts (2010) employed Goffman's self-presentation theory to investigate corporate environmental disclosures from the organisational legitimacy perspective. They argued that companies employed internet environmental disclosures to project a more socially acceptable environmental management image to public stakeholders. This disclosure strategy was often de-coupled from the companies' actual environmental performances. They found support for legitimacy theory and impression management frameworks, illustrating that weaker environmental performers use more extensive disclosures in terms of both content and website presentations.

Organisations seek legitimacy by two general means: (1) substance management; and (2) symbolic management (Ashforth & Gibbs, 1990; Richardson, 1985; Westphal & Zajac, 1998). Symbolic legitimisation, which traces its roots to the work of Marx and Weber, involves, **"*the symbolic transformation of the identity or meaning of acts to conform to social values*" and is predicated on the proposal that "*the acceptance of authority resides in the belief in the legitimacy of the order independently of the validity of that order*"** (Richardson, 1985:143).

Symbolic actions usually signal ceremonial conformity or compliance. They can take the form of an announcement of the establishment of an ethics committee, all the way to any 'window dressing' or 'green washing efforts' designed to give the appearance of action, while enabling companies to continue operating normally (Ashforth & Gibbs, 1990; Westphal & Zajac, 1998). Symbolic management also applies to organisations justifying their moves on performance in order to appear

consistent with the social values and expectations of important audiences (Ashforth & Gibbs, 1990). As an example, organisations may formulate and publicise ethical policies, while failing to establish any procedures for monitoring compliance or imposing sanctions (Bowman & Haire, 1976, cited in Ashforth & Gibbs, 1990).

On the other hand, substantive CSR **"*represents realized role performance; the organisation undertakes real actions to meet the expectations of those societal actors upon which it depends for critical resources*"** (Ashforth & Gibbs, 1990:182). These actions often require significant changes in core practices or even long-term commitments and investments.

Ashforth & Gibbs (1990:184) have shown that **"*management reflex is often to defend the status quo through denial, accounts or counterclaims rather than to engage in dispassionate problem-solving and substantive changes*".** The complexity of the environment in which an organisation operates—including the numerous links it needs to sustain with societal actors and the inherent ambiguity of what a 'legitimate act' is leading to a managerial predilection for symbols: **"*As societal actors become more densely interlocked, and as their relationships become more organized and institutionalized, they increasingly deal in the realm of symbols and images. The sheer number of relationships dictates that intimate knowledge give way to superficial impressions.*"** (Ashforth & Gibbs, 1990:180).

Ashforth & Gibbs (1990) suggested that corporations can avail themselves of multiple approaches to symbolically manage their activities. One of these is 'ceremonial conformity' (Meyer and Rowan, 1977 cited in Ashforth & Gibbs, 1990), which includes the implementation of **"*certain highly visible and salient practices that are consistent with social expectations, while leaving the essential machinery***

***of the organisation intact*"** (Ashforth & Gibbs, 1990:181). The intent of ceremonial conformity is to show the social congruence of the corporation to the end of securing organisational resources such as legitimacy. The authors concluded that legitimacy is a valued but problematic resource. Managers seek to legitimate the means and ends of organisations through an array of substantive and symbolic practices. The intensity of both symbolic and substantive practices varies according to whether managers are attempting to extend, maintain, or defend their organisation's legitimacy. Legitimation tends to be more intensive during periods of extension and defence, as these cause the preservation of legitimacy to be more problematic.

Neu et al. (1998:267) pointed out, **"*it is often easier to manage one's image through communication than through changing one's output, goals and methods of operation*"**.

Organisations prefer symbolic legitimation in lieu of actual material changes because the latter lead to assessments. For example, Pfeffer (1981) provided supportive evidence for Meyer & Rowan (1977:29), stating that **"*One of the interesting aspects of many organisations is the efforts undertaken to systematically avoid assessments, especially of outcomes that are of potential interest to various groups of individuals in contact with the organisations*"** (Pfeffer, 1981, cited in Suchman, 1995:598).

This thesis therefore places the analysis of standalone sustainability reporting with a particular focus on the use of graphs within a dual framework of visual impression management theory and legitimacy theory. It does so for several reasons. Firstly, legitimacy theory and an impression management framework rely on the notion of communication and suggest that organisational disclosures constitute an important

and effective way to project a positive image and optimally shape the perceptions of firm stakeholders. Hence, in order to remain legitimate in the public's eyes, organisations publish standalone sustainability reports and construct graphs as tools of communication disclosure strategies for impression management purposes. Graphs play a crucial role in standalone sustainability reports as they have the capacity to process rich information simply and effectively and, consequently, may fulfil complementary communication goals. The visual impression management literature reveals that people employ communication deliberately and strategically to create the desired impressions of themselves. **"*In interaction with others, a person uses communication to manage other people's impressions of himself or herself*"** (Goffman, 1959:4). As such, it could be usefully employed by the reporting entities in undertaking their legitimising activities.

Secondly, as legitimacy is mainly about perceptions, communication plays a crucial role in the legitimisation process; this association potentially explains why legitimacy theory has been widely tested, espoused, and validated in the social and environmental accounting and disclosure literatures (Deegan, 2002b; Deegan & Gordon, 1996; Hackston & Milne, 1996; Milne & Patten, 2002; Neu et al., 1998; O'Donovan, 1999; Patten, 1992a).

This thesis assumes that the use of the GRI guidelines increases CSR ratings; this, in turn, may lead to improved stakeholder relationships and to inclusion in social responsibility investment funds. Therefore, organisations have an incentive to use the GRI guidelines (Cho et al., 2015). On the one hand, the GRI guidelines are assumed to improve the practices of sustainability reporting and the use of graphs to portray neutral self-representations (faithful representations of the underlying realities) of organisations' environmental and social performances. On the other hand, the GRI

guidelines are employed as impression management tools—a means of managing organisational legitimacy in the eyes of stakeholders, with graphs representing privileged legitimacy tools (Brown, 1997) that use graphic constructions—rather than as efforts towards greater transparency. This is consistent with the impression management (Merkl-Davies, 2011; Beattie & Jones, 2008) and legitimacy arguments. Both visual impression management and legitimacy theories suggest that companies communicate selective legitimate-looking activities to their stakeholders in order to meet societal expectations and satisfy public demands (Cho & Roberts, 2010; Milne & Patten, 2002; Patten, 2002).

Additionally, such practices are expected to be more prevalent in high-sensitive sectors than in low-sensitive ones. The evidence suggests that, as they are associated with more visible social and environmental issues, high-sensitive sectors (e.g., energy, chemical, automotive, and mining) have greater self-serving incentives to disclose more voluntary information and to engage more in impression management practices than low-sensitive ones (e.g., telecommunication, finance, and media) (Jones, 2011). Additionally, their actions are more closely scrutinized by the media, advocacy groups, and the public (O'Dwyer, 2003., cited in Tata & Prasad, 2014) compared to those of organisations from other sectors. Hence, high-sensitive sector organisations need to manage their images (Pfeffer & Salancik, 1978). Such organisations are more likely to face external social pressures and engage in actions that influence public perceptions.

Summary

This chapter introduces a theoretical framework identified through a review of prior literature. It provides an analyitical tool to aid the understanding of the reasons behind the use of visuals in GRI-compliant stand-alone sustainability reports. The visual impression management and legitimacy theory is employed to reflect on the empirical findings. The research methods used to collect the data are one of the key aspects of this research study, which is discussed in the following chapter.

Chapter Four: Methodology and methods

4.1 Research strategy

This thesis employed quantitative and qualitative research methods in order to answer the research questions regarding: (i) the length and make-up of standalone sustainability reports; (ii) visual impression management through the use of graphs; and (iii) the authorship of standalone sustainability reports.

Firstly, a sample of standalone sustainability reports, published by both high sensitive and low sensitive sector organisations, were subjected to archival content analysis. The content analysis investigated the overall length of documents and the distribution of their contents into numbers, narratives, visual materials (including graphs), mixed materials, and blank space. A rigorous space counting method was deployed, based on a space grid.

Secondly, both content analysis and descriptive statistical analysis were carried out on the use of visual impression management through graphs. The analysis considered the topics graphed, with a focus on environmental, social, and economic issues. Further investigations were conducted into impression management through the selection of 'good' and 'bad' news, and through measurement distortion. Again, the analysis focussed variously on high- and low-sensitive sector organisations.

Thirdly, semi-structured interviews were conducted with six key preparers of GRI-compliant standalone sustainability reports, focussing on the process of preparation and on the choice of content.

This chapter discusses qualitative and quantitative research methods, and then outlines the methods used in this study in detail.

4.2 Methodology and methods: general discussion

First of all, it is important to clarify the concepts 'methodology' and 'method'. As Ryan et al. (2000, p.36) stated, methodology is ***"the process of doing research" and methods are "the particular techniques used"*** in a particular research.

Similarly, the process of doing research and the techniques employed in that particular research are underpinned by some philosophical assumptions that normally differ based on the nature of that research and the view of the researcher (Burrell & Morgan, 1979). From a sociological view point, Burrell & Mogan (1979) created the framework for four sociological paradigms which are now widely accepted and used to convey a standpoint on a particular issue. The four paradigms are Radical Humanist; Radical Structuralist; Functionist and Interpretive views. They contain "fundamentally different perspectives for the analysis of social phenomena (Burrell & Mogan, 1979).

The functionalist paradigm refers to the search for explanations of social phenomena, from the view point of a realist- what can be described as a positivist perspective. It is a logical, rational view which is often 'problem oriented in approach'. It has its roots in the pure sciences where issues could be measured, evaluated and monitored.

The radical structuralist paradigm however espouses an objective view. This view is concerned with structure, with structural relationships and with the certainty that as all things have a structural relationship within society, then all things can be explained in a logical way. This view is closely linked with that of the functionalist.

The radical humanist paradigm views the world as one in which everyone has potential that we are able to 'do better' and 'be better' than society at any given time,

permits. This view of 'endless possibilities' is closely allied to the interpretive viewpoint as it is a view which allows and encourage subjectivity. The perspective of the 'critical social researcher' is formed from within this paradigm. The fourth paradigm, the interpretive view is concerned with understanding, with interpreting the world and each situation, depend on tangible and intangible variables that were present at the time.

Thus, there are many contexts where qualitative and quantitative methods can be used in conjunction to build and refine theory. By using both methods enable the researcher to fully understand their phenomenon of interest. Jack (1979) cited in Burrell & Morgan (1979) demonstrates the usefulness of including a more systematic approach to qualitiative work a more observational approach to survey-research in providing a complete picture of a phenomenon than either methodology could accomplish alone. The increased use of multiple methods is necessary to build accurate, generalizable, and practically useful theory in in a field as inherently complex as management research.

4.2.1 Qualitative research

General discussion

Qualitative research methods were introduced in the social sciences to enable researchers to study social and cultural phenomena (Myers, 2013). They tend to examine issues in their natural settings (Denzin, 2003) or research contexts to develop trust, participation, access to meanings, and in-depth understandings of phenomena (Symon & Cassell, 2012).

It refers broadly to **"*research that produces descriptive data: people's own written or spoken words and observable behaviour*"** (Taylor & Bogdan, 1984:7). Van

Maanen (1979) stated that the label 'qualitative methods' does not have a definite meaning and is used as an umbrella term applied to a number of interpretive techniques aimed at describing, decoding, translating, and otherwise inferring the meanings of events or phenomena naturally happening in the social world**.** Qualitative methods enable to learn from participants about the problems and issues and to address the research to gather that information (Creswell, 2009).

Qualitative methods are an effective tool for exploratory research when the particular topic is new and not many studies have previously been conducted on it. They allow the researcher to discover new variables and relationships, to reveal and understand complex processes, and to illustrate the influence of the social context. They are inductive and data-driven (i.e., they start from the observation of phenomena in order to build up theories about them). The development of hypotheses, which is part of the research process itself, is aimed at developing an adequate theory according to the observations that have been made (exploratory study). Qualitative methods also almost exclusively make use of purposive sampling strategies. These enable **"*selecting information-rich cases to be studied in depth*"** (Patten, 1990:169, cited in Sandelowski, 1995).

Purposive strategies include, among others, convenience sampling (in which elements are drawn from a sub-population according to its accessibility and research interests), homogenous cases sampling (i.e., picking elements from a sub-group to study the phenomena in-depth), snowball sampling (i.e., using informants to identify cases that it would be effective to include in the study). Once the sampling is concluded, the data have to be collected (Creswell, 2009).

The data may be collected from the subjects constituting the sample directly (primary data) or indirectly (secondary data); e.g., by making use of personal and official documents, including archival work. Qualitative data analysis is carried out by performing content or thematic analysis of transcriptions, memos, and field notes (Gelo et al., 2008). The interpretation of the data involves figuring out what the findings mean, and is part of the overall efforts to make sense of the evidence gathered. It is a process of inductive inferences (Tashakkori & Teddlie, 2010) that relates to a process aimed at creating meaningful and consistent explanations, understandings, conceptual frameworks, and/or theories drawing on systematic observations of phenomena.

Advantages and disadvantages of qualitative research

Qualitative research is based on the participants own categories of meanings, is an effective method for studying a limited number of cases in depth, and is useful to describe a complex phenomenon and conduct cross-case comparisons (Johnson & Onwuegbuzie, 2004). Researchers are able to study dynamic processes (i.e., document sequential patterns and change). It assists researchers in understanding the underlying dynamics and meaning-making related with constructs, such as how these are enacted and how they evolve (Bartunek & Seo, 2002).

Myers (2013) argued that qualitative research assists researchers in understanding the social and cultural contexts within which people live. It enables them to see and understand the context within which decisions and actions occur. **"*It is often the case that human decisions and actions can only be understood in context—it is the contexts that help to 'explain' why someone acted as they did. And this context (or multiple contexts) is best understood by talking to people*"** (Meyer, 2013:5).

On the other hand, the knowledge produced may not be generalizable to other people or settings. In other words, the findings may be unique to the relatively few people included in the research (Meyers, 2013), they may be less suited to test hypotheses and theories, and may hold lower credibility with some administrators and commissioners of programmes. The data collection process is time-consuming, and the results are more easily influenced by the researchers' personal biases and idiosyncrasies and less suited to make quantitative predictions (Johnson & Onwuegbuzie, 2004).

Examples of qualitative methods are action research, case study research, and grounded theory, and the data sources consist of observations, participant observations (fieldwork), questionnaires, documents and texts, and the researchers' impressions of and reactions to interviews, which are the focus of this study (Myers, 2013).

Content analysis

Content analysis is defined as **"*a research technique for the objective, systematic and quantitative description of the manifest content of communication*"** (Berelson, 1952:14). Holsti (1969) defined content analysis as **"*any technique for making inferences by objectively and systematically identifying specified characteristics of messages*"**. Similarly, Krippendorff (2004:18) defined content analysis as a research technique suited to **"*making replicable and valid inferences from texts (or other meaningful matter) to the context of their use*"**. Krippendorff (2004) mentioned the replicable and validable advantages of this approach. The three definitions discussed use the words 'communication', 'message', and 'text', which indicate that the content meaning is not only aimed at written materials (narratives), but also at other visual communication and messages consisting of pictures, graphs, charts, works of

art, images, signs, maps, symbols, etc., which are meaningful things that cannot be precisely and fully realised with the use of linguistic texts.

Content analysis can be both subjective 'meaning oriented' and objective 'form oriented' (Smith & Taffler, 2000:627). It is an effective instrument to measure comparative positions and trends in reporting (Guthrie et al., 2004). In order for content analysis to be effective, certain technical requirements should be met (Guthrie et al., 2004). First, the categories of classification i.e., the units of the analysis must be clearly and operationally defined. Second, data captures must be systematic an item must clearly either belong or not to a particular category. Thirdly, content analysis must show some characteristics of reliability and validity. Crucially, coding must be reliable and consistent (Bryman & Bell, 2011) between coders (inter-coder reliability), and each code must be consistent over time (intra-coder reliability).

Krippendorff (2004) identified three types of reliability for content analysis; stability, reproducibility, and accuracy. Stability is concerned with the ability of the coder to code data consistently over time. Milne & Adler (1999:3) argued that **"*if the results coincided exactly with those arrived at by the coder the first-time round, then the stability of the content analysis would be perfect*".** The aim of reproducibility is to measure the extent to which coding produces the same results when the text is coded by multiple coders (Weber, 1990). Finally, accuracy (the extent to which the classification of texts corresponds to a standard or norm).

Advantages and disadvantages of content analysis

Content analysis is considered a relatively low-cost method that can be used for both small and large-scale studies (Bell & Bryman, 2011). It is specifically an appropriate

technique when data accessibility is limited or an investigation is restricted to documentary evidence. It is also the best method when time or space restrictions do not allow direct access to the subject of the investigation (Holsti, 1969). It is most appropriate when the **"*subject's own language is crucial to the investigation*"** (Holsti, 1969:17) and the volumes of materials to be analysed are large, as it facilitates a systematic approach to coding and classifying the data (Holsti, 1969). It is also regarded as a transparent research method (Bell & Bryman, 2011) that enables performing a certain amount of longitudinal analysis with relative ease. It is also a flexible method; it can be applied to a wide range of kinds of unstructured information (Bell & Bryman, 2011).

The use of content analysis in this thesis, however, was also affected by several limitations (Gray et al., 1995; Unerman, 2000). Firstly, it was concerned with the quantity of disclosures (in terms of the frequency and volume of reporting) rather than their quality characteristics. Secondly, it could be regarded as being subjective, in that it captured various narratives as a representation of CSR. Another disadvantage of content analysis is bias stemming from **"*working on documents which have been written for some purpose other than for research*"** (Robson, 2002:358).

Content analysis does not provide answers to 'why' questions. Studies involving content analysis are sometimes accused of being atheoretical. It is easy to perceive why such a criticism might arise; content analysis' emphasis on measurement can easily and unwittingly result in the accent being placed on what is measurable, rather than on what is theoretically significant or important. Robson (2002) pointed at the importance of using other data sources to address this problem.

General interview discussions

Interviews are considered to be a common and widely accepted research method in qualitative research. Interviews are conducted routinely as a way of seeking knowledge about all kinds of phenomena and are a primary way of collecting information and getting to know people.

Kvale (1983:12) defined the qualitative research interview as **"*an interview, whose purpose is to gather descriptions of the life-world of the interviewee with respect to interpretation of the meaning of the described phenomena*".** Rubin & Rubin (2011:20) argued that qualitative interviews are like night vision goggles, "***permitting us to see that which is not ordinary on view and examine that which is often looked at but seldom seen***".

Two main types of interview are conducted in qualitative research: semi-structured and structured interviews (Bryman, 2012).

Typology of interviews

A structured interview, also called a standardised interview, entails the administration of an interview scheduled by the interviewer. All interviewees are asked exactly the same set of questions and the script is prepared beforehand. The goal of this type of interview is to ensure that the interviewee replies can be aggregated, which can only be attained reliably if the replies are given in response to identical cues (Bryman, 2012). On the other hand, within a semi-structured interview, the researcher has a list of questions, but the interviewee is afforded a degree of flexibility in how to reply, and the questions may not follow each other exactly as scheduled (Bryman, 2012).

Advantages and disadvantages of structured interviews

Structured interviews enable the reduction of errors due to interviewer variability and provide accuracy and ease of data processing (Bryman & Bell, 2011). They are easy to administer, simple to analyse, relatively inexpensive, and are suitable to answering quantitative types of questions as they enable researchers to compare and contrast data across large sample sizes. In contrast, fixed alternative answers may force respondents to express opinions that they do not hold, and make any discrepancies in interpretation not readily evident (Bryman & Bell, 2011). There will be no information available as to the reasons for the answers given (Cargan, 2007). Fixed answer sets may also result in weak insights into procedural knowledge and in a lack of depth of the respondents' answers to the questions. The standardised wordings of the questions may also limit the naturalness and relevance of both questions and answers (Patton, 2002). Finally, they overlook or inadequately assess the emotional dimensions (Fontana & Frey, 2005).

Advantages and disadvantages of semi-structured interviews

Semi-structured interviews enable the researcher to capture various distinct insights into how participants perceive the world. They provide a greater flexibility to the types of questions the researcher can ask as these depend on the respondents' answers. This, in turn, will enable the interviewers to better understand the phenomena (Bryman, 2012). Interviewees have a degree of freedom for their responses, but the interviewers retain control and allow the deep exploration of experiences (Drever, 1995). The order of questions to follow and the questions to be asked can be modified, deleted, added, explained, and probed, which, in turn, brings about a good response rate and rapport with the interviewer. There is also less

likelihood of misinterpretation as there are no forced answers and the interviewer is able to clarify the meanings of the answers (Cargan, 2007).

Semi-structured interviews are particularly useful when a researcher is conducting a pilot (preliminary) study in order to formulate the main research questions and are useful in exploratory research. They are particularly useful if the research problem refers to wide ranging issues and the researcher needs to detect or identify the issues relevant to understanding the situation (Bulmberg et al., 2011). They take the advantage of social cues. There is also no significant delay between questions and answers; the interviewee and interviewer can directly react to what was said and thereby the interviewee responses are spontaneous (Opdenakker, 2006).

On the other hand, conducting semi-structured interviews requires some skills and is difficult to delegate to an assistant. There is also a greater chance that different information may be obtained from different people. For example, the follow-up questions have two main disadvantages. Firstly, the data obtained from them are difficult to interpret as different participants are asked different questions. Secondly, the answers to the standard questions are difficult to interpret as they are not asked in the same fashion to all participants. Semi-structured interviews are also very time consuming and expensive. Furthermore, they can go wrong; it is possible for an interviewer to offend or unintentionally insult an interviewee, who might abandon the interview altogether (Saunders & Lewis, 2012).

4.2.2 Quantitative research

General discussion

Quantitative research was introduced in order to study natural phenomena. It examines relationships between variables, which are quantified numerically and analysed using a range of statistical techniques.The quantitative research method consists of surveys, laboratory experiments, formal (e.g., econometrics) and numerical methods such as mathematical modelling. It also involves quantitative content analysis. It focusses on numbers more than anything else (Meyers, 2013); i.e., numbers are used to represent the value and level of theoretical constructs and concepts and the interpretation of those numbers is regarded as strong scientific evidence of how a phenomenon works (Straub et al., 2004). The data are analysed by testing one or two hypotheses; however, explorative data analysis may also be performed. The aim of the analysis is to uncover any statistically significant and generalizable relationships between the observed variables (of either a casual or correlational nature) in one or more groups. The choice of statistical test is based on the type of questions asked (e.g., describing trends, comparing groups, or relating variables), on the types of scales employed to measure the variables (nominal, ordinal, interval, or ratio), and on whether the population is normally or non-normally distributed. Confidence intervals and effect size may also be employed to provide further evidence. Quantitative analysis proceeds from descriptive to inferential (hypothesis-testing) analysis (Meyers, 2013). Finally, the results of the analysis are presented in the form of statements summarising the statistical results. The interpretation of the data includes ascribing a meaning to the obtained results with reference to theory and hypotheses. This also depends on whether the research design was or not experimental; conclusions may be drawn concerning cause-effect

relationships or correlations between variables in the populations the sample was selected. These conclusions may then assist in confirming, extending, or challenging the theory of references (Meyers, 2013).

Advantages and disadvantages of quantitative research methods

They consider large sample sizes and are generalizable to large populations (Meyers, 2013). They are effective in obtaining data that enable the formulation of quantitative predictions. The researcher is able to construct a situation that eliminates the confounding influence of many variables, enabling a more credible assessment of cause and effect relationships. They provide precise, quantitative, and numerical data and the data analysis can be made relatively less time consuming by the use of statistical software. The research's results are relatively independent of the researcher (e.g., effect size, statistical significance) and hold higher credibility with many people in power (e.g., administrators, politicians, and those responsible for funding the research).

On the other hand, quantitative research methods do not take into consideration the social and cultural aspects of organisations; the context is usually treated as 'noise' or as a hindrance. The categories and theories employed by the researcher may not reflect the understanding of local constituencies and may miss phenomena occurring because of the focus on theory or hypothesis generation (known as confirmation bias). The knowledge produced may be too abstract and general to be directly applied to specific local situations, contexts, and individuals (Johnson & Onwuegbuzie, 2004).

4.3.1 Content analysis of sustainability documents

As discussed, the first group of research questions concerned "What is the length and make-up of standalone sustainability reports in GRI-compliant companies?" The sub-research questions are summarised as follows:

- What is the overall length?
- What is the proportion of narratives in these reports?
- What is the proportion of graphs in these reports?
- What is the proportion of pictures in these reports?
- What is the proportion of charts and maps in these reports?
- What is the proportion of others (e.g., numbers) in these reports?
- What is the proportion of mixed materials e.g., narratives mixed with visuals (graphs, pictures, diagrams, charts and maps) in these reports?
- What is the proportion of narratives mixed with numbers in these reports?

To answer these sub-research questions, a research template was constructed, as shown in Table 4.

Table 4: Template for content of a full document (SASRs)

Category	Medium	Space per grid/ proportion of a page
Numbers	Numbers	
Narratives	Narratives	
Visuals	Graphs	
	Pictures/Photographs	
	Diagrams	
	Charts	
	Maps	
Total visuals		
Mixed materials	Narratives mixed with numbers	
	Narratives mixed with graphs	
	Narratives mixed with pictures	
	Narratives mixed with charts	
	Narratives mixed with maps	
Total mixed materials		
Total length of the document		

The research template was designed in order to collect information regarding the overall content of the standalone sustainability reports. The data were entered manually into an Excel file for each individual company.

Definition of numbers and narratives

Numbers

The Oxford Dictionary (2010) defines 'number' as **"*An arithmetical value, expressed by a word, symbol, or figure, representing a particular quantity and used in counting and making calculations*"**. In this study, numbers include arithmetical values expressed by symbols or figures. These numbers were deployed by companies to specifically portray the investments they had made across sustainability issues.

Narratives

The Oxford Dictionary (2010) defines 'narrative' as **"*A spoken or written account of connected events; a story*"**. In this study, narratives include written accounts or stories across sustainability issues.

Definition of key visuals

Visuals relevant to accounting may take the form of pictures/photographs, films, architectural features, general aesthetics, sketches, diagrams, adverts, art forms, colours, presentations, formats, book histories, visual brandings and logos, traffic light performance indicators, maps, postal accounting marks, videos, web pages , cosmetic, cartoon graphics (schematic faces) and graphs (Davison, 2015). This study investigates graphs, pictures, diagrams, charts, and maps.

Graphs

The Oxford Dictionary (2010) defines 'graph' as **"*A diagram showing the relationship between variable quantities, typically of two variables, each measured along one of a pair axes at right angles*"**. However, the terms 'graphic', 'graph design', and 'graph' cause frequent confusion in accounting in terms of their definition. 'Graphic' and 'graph design' are generally used to designate the attention given to all visual media in accounting documents such as annual reports, including pictures, photographs, graphs, charts, colours and the visual presentation of numbers and words (Davison, 2013:34). In the context of the adopted theoretical framework, 'graph' designates the visual representation of quantitative data in the form of a column, circle, line, pie, pictorial, and bar graph. These are the main types of graphs employed by companies to communicate both quantitative and qualitative information.

Photographs/Pictures

The Oxford Dictionary (2010) defines 'photograph' as **"*A picture made using a camera, in which an image is focussed onto light-sensitive material and then made visible and permanent by chemical treatment, or stored digitally*"**. This definition reveals that photograph is made up of both human and non-human information and relies on the application of a camera or of another modern digital device. In contrast, the Oxford Dictionary defines 'picture' as a concept, as a painting or drawing, a photograph, a portrait, an image on a television screen, a cinema film or an impression of something formed from its description. Pictures can be taken either through digital or non-digital technolog, for example, traditional or digital cameras and traditional hand or computer aided drawing to produce non-photographic

pictures, such as sketches, drawings, and cartoons. They can involve human information (human face, body, skin, expression, emotion, and dress) and intangible codes (psychology and cultural intention) but also a wide array of non-human information. This research focusses on pictures conveying human and intangibles codes in the context of sustainability issues.

Diagrams

The Oxford Dictionary (2010) defines 'diagram' as **"*A simplified drawing showing the appearance, structure, or working of something; a schematic representation*".**

Charts

The Oxford Dictionary (2010) defines 'chart' as **"*A sheet of information in the form of a table, graph, or diagram*".** This study relies on this definition to collect data for the purpose of the content analysis.

Maps

The Cambridge University defines 'map' as **"*A drawing of the earth's surface, or part of that surface, showing the shape and position of different countries, political borders, and natural features such as roads and buildings*"**. This definition was deployed to collect the data.

Definition of mixed materials

The mixed materials were investigated into narratives mixed with: (i) graphs; (ii) pictures; (iii) charts; and (iv) numbers as shown in Figures 5-8. These were only considered if they met the definition of narratives and the specific visuals defined above and shown in the example in Figures 5-8.

Figure 5: Example of narratives mixed with graph

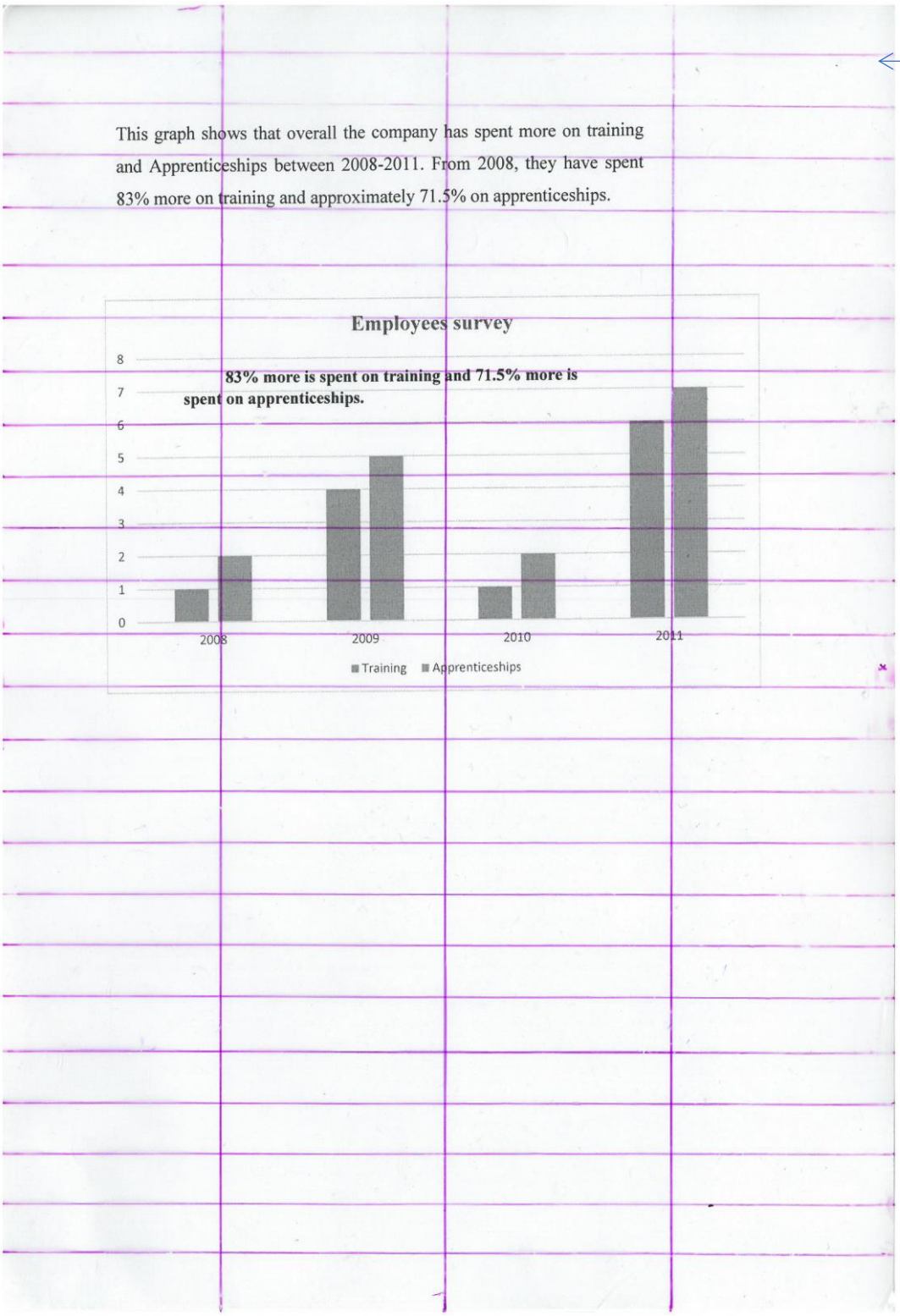


Figure 5 reflects that 38% or 0.38 (38/100*100) consists of numbers mixed with graph. This is recorded in a draft notebook for each and a final value is entered in (Appendix 3-10) for each company.

Figure 6: Example of narratives mixed with picture

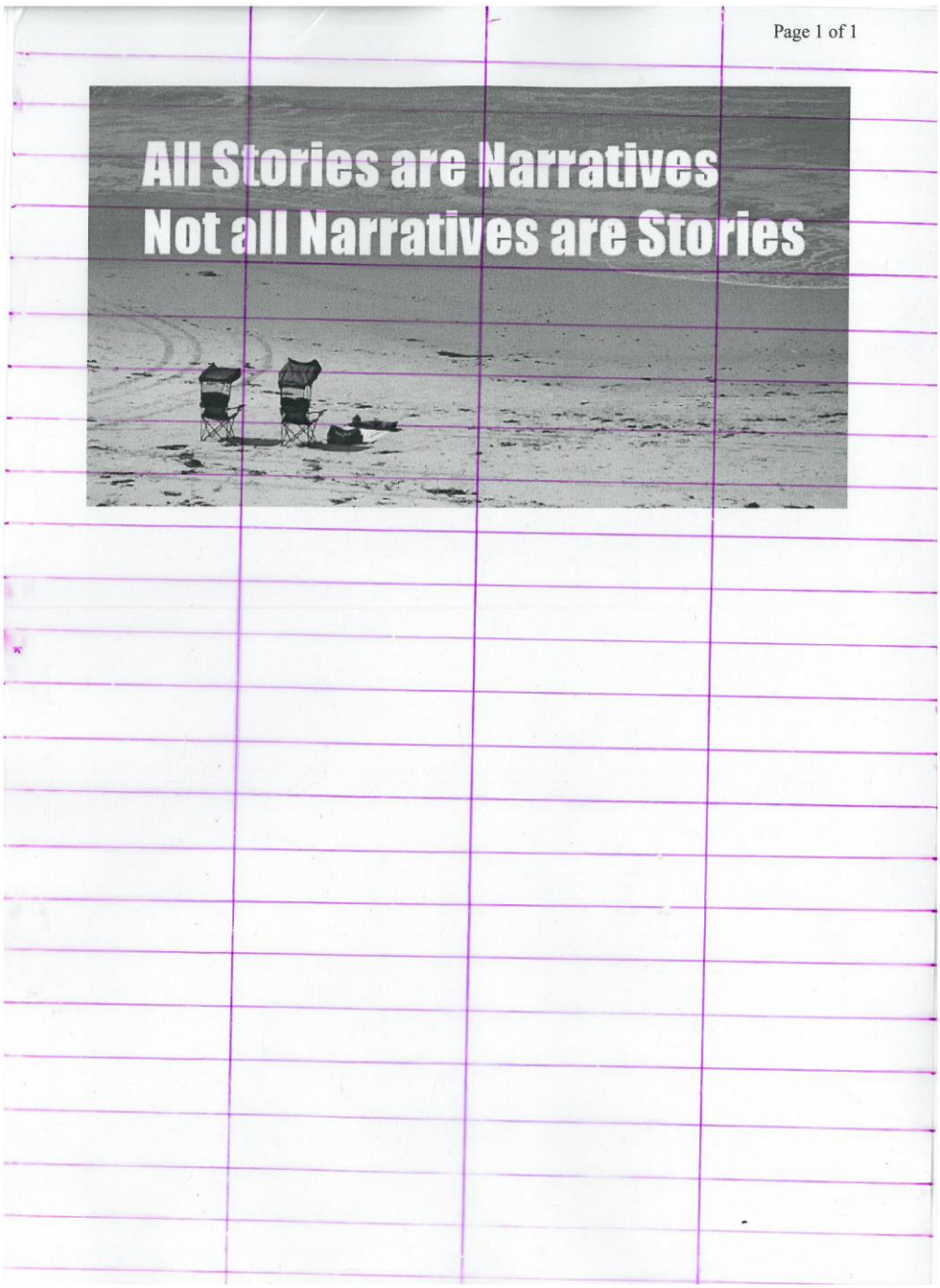


Figure 6 reflects that 32%% or 0.32 (32/100*100) consist of numbers mixed with picture. This is recorded in a draft notebook for each and a final value is entered in (Appendix 3-10) for each company.

Figure 7: Example of narratives mixed with chart

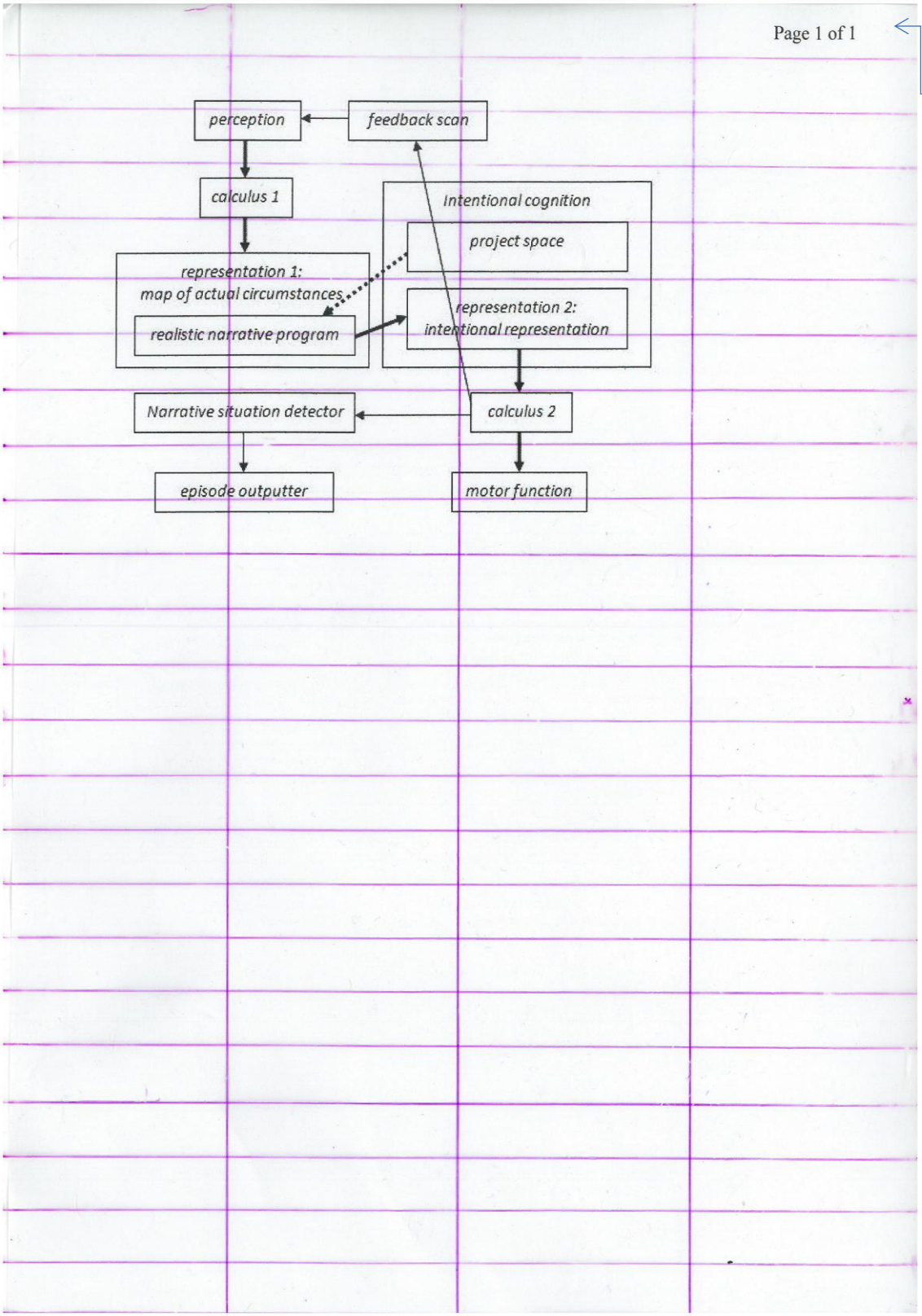
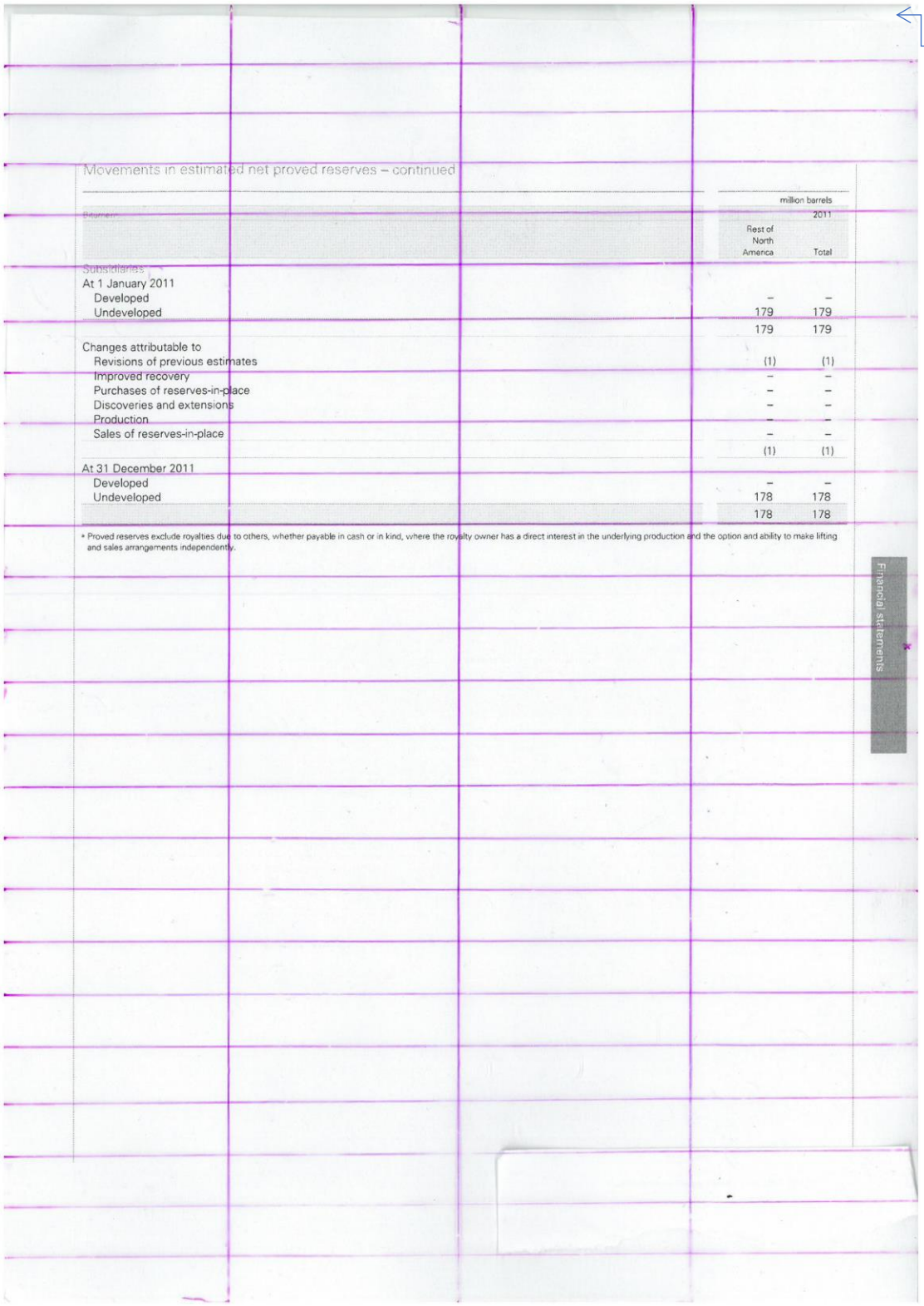


Figure 7 reflects that 27%% or 0.27 (27/100*100) consists of numbers mixed with chart. This is recorded in a draft notebook for each and a final value is entered in (Appendix 3-10) for each company.

Figure 8: Example of narratives mixed with numbers



Movements in estimated net proved reserves – continued

	million barrels 2011	
	Rest of North America	Total
Subsidiaries		
At 1 January 2011		
Developed	–	–
Undeveloped	179	179
	179	179
Changes attributable to		
Revisions of previous estimates	(1)	(1)
Improved recovery	–	–
Purchases of reserves-in-place	–	–
Discoveries and extensions	–	–
Production	–	–
Sales of reserves-in-place	–	–
	(1)	(1)
At 31 December 2011		
Developed	–	–
Undeveloped	178	178
	178	178

* Proved reserves exclude royalties due to others, whether payable in cash or in kind, where the royalty owner has a direct interest in the underlying production and the option and ability to make lifting and sales arrangements independently.

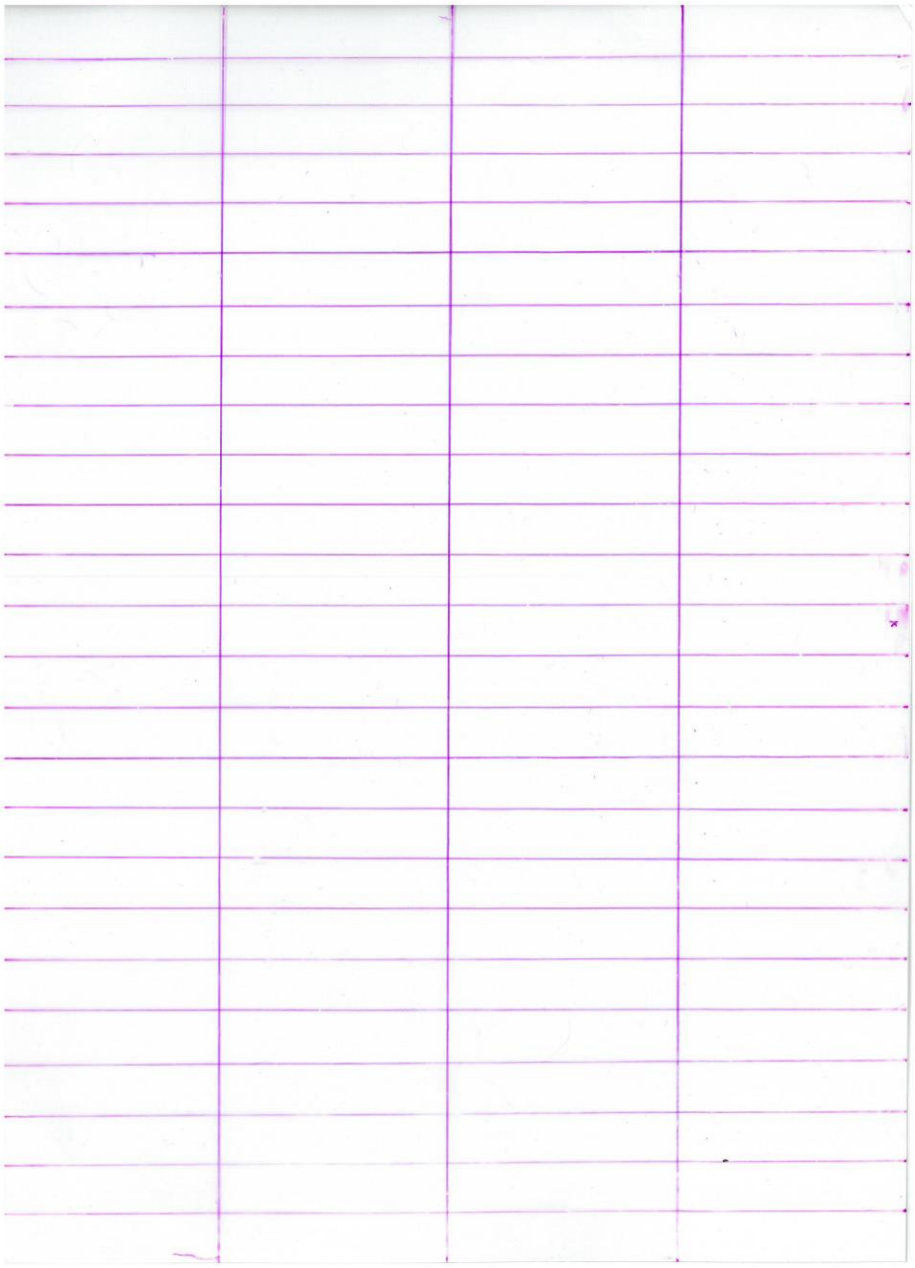
Financial statements

Figure 8 reflects that 35%% or 0.35 (35/100*100) consists of narratives mixed with numbers. This is recorded in a draft notebook for each and a final value is entered in (Appendix 3-10) for each company.

Definition of blank space

The Oxford Dictionary (2010) defines 'blank space' as "(of a surface or background) unrelieved by decorative or other features; bare, empty, or plain". This study regards blank space as an area that is blank and empty. In other words, an area that includes neither text nor visuals, as shown in Figure 9.

Figure 9: Example of a grid



Counting methods

As discussed, a sample of standalone sustainability reports published by companies from both high- and low-sensitive industry sectors were subjected to archival content analysis. The content analysis investigated the overall length of the documents and the distribution of their content into numbers, narratives, visual materials (including graphs), mixed materials, and blank space. A rigorous space counting method was deployed, based on a space grid.

Secondly, the use of visual impression management through graphs was subjected to both content analysis and descriptive statistical analysis. The analysis considered the topics graphed, with a focus on environmental, social and economic issues.

Space counting

Previous studies found little evidence articulating a clear, logical, and appropriate measurement method to quantify the space of a visual image that partially or totally occupies a page. This thesis used the procedure employed by Gray, Kouhy & Lavers (1995) and Unerman (2000), by which an A4 size paper was divided into a grid of 25 rows of equal height and four columns of equal width laid out across the investigated area, with space counted as the number of cells on the grid taken up by a disclosure (making allowance for any blank parts of a page). Most of the annual reports were printed on A4 sheets, which is the size employed for official documents, letters, catalogues, and laser printer and copying machine outputs. As argued by Davison & Skerratt (2007:32) **"*The majority of the corporate reports were published in the A4 format. By choosing the A4 format, companies signal that their annual report is very much a business and official document*".** This provides a justification for the

use of an A4 size sheet in this study. An example of a typical page that can be measured through Unerman's (2000) approach in terms of space is shown in Figures 5-8. Additionally, on one hand, it can be argued that Unerman's (2000) approach to content analysis in terms of space provides a consistent and reliable quantification of the data. On the other hand, Unerman's (2000) content analysis presents one issue with quantifying disclosures in terms of the proportions of a page as it introduces an additional area of subjectivity into the measurement process. This involves the treatment of the blank parts of a page, and caused some differences in Gray et al.'s (1995) study. As Gray et al. (1995:90) stated, **"*Agreement was eventually reached to count blank parts of a page as part of the communication. This possibly bizarre conclusion was reached because first, layout of a page is part of its communication power; second, these areas could have been used for other forms of communication … and third, the written and pictorial part of a page could be considered to be the page itself and the blank areas irrelevant, although this would have meant collecting page-size data. An approximation of this was done but to no apparent effect*"** (cited in Unerman, 2000:16). This thesis integrated blank pages as part of the analyses.

Unit counting

In this paper, unit counting enumerates each occurrence of a visual item, focussing on graphs. As content analysis is characterised by unitising (Dominick & Wimmer, 2003), visual items were considered to be the recording units in this study.

Hence, this thesis captured a complete picture of standalone sustainability reports. As Unerman (2000) suggested, **"*If volume were measured in terms of words, sentences or paragraphs, the volume measured in respect of this disclosure would be limited to the photograph's caption, whereas, measuring volume as a***

***proportion of a page enables both the paragraph and its caption to be included in the analysis. Any quantification method ignoring such graphics risks capturing an incomplete picture of CSR practices*".** Furthermore, character, word, sentence or paragraph counts neglect differences in typeface size, which can be captured by measuring volume as the proportion of a page taken up by each disclosure (Unerman, 2000).

4.3.2 Analysis of the use of graphs

Defining the second group of research sub-questions required further archival work focussing on graphs. This was undertaken in terms of unit and the research sub-questions were therefore formulated as follows:

- What is the overall use of graphs in these reports?
- What types of graphs are used?
- What are the time-series of graphs?
- What types of colours are used in these graphs?
- What proportions of graphs are devoted to: (a) social; (b) economic; and (c) environmental?
- What types of graph topics are devoted to: (a) social; (b) economic; and (c) environmental graphs?

Examples of graph types (column, circle, line, pie, pictorial, bar)

Figure 10: Example of a column graph

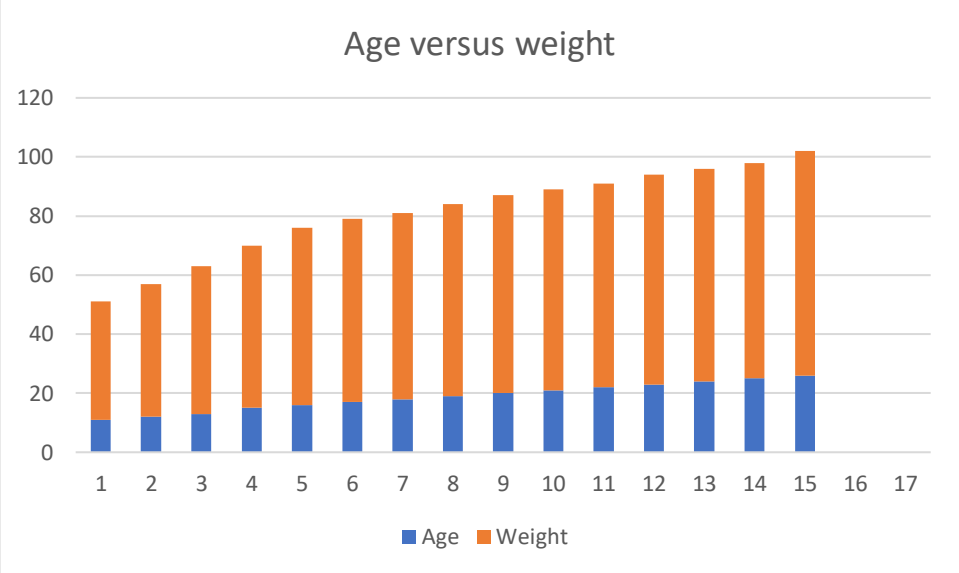


Figure 11: Example of a circle graph

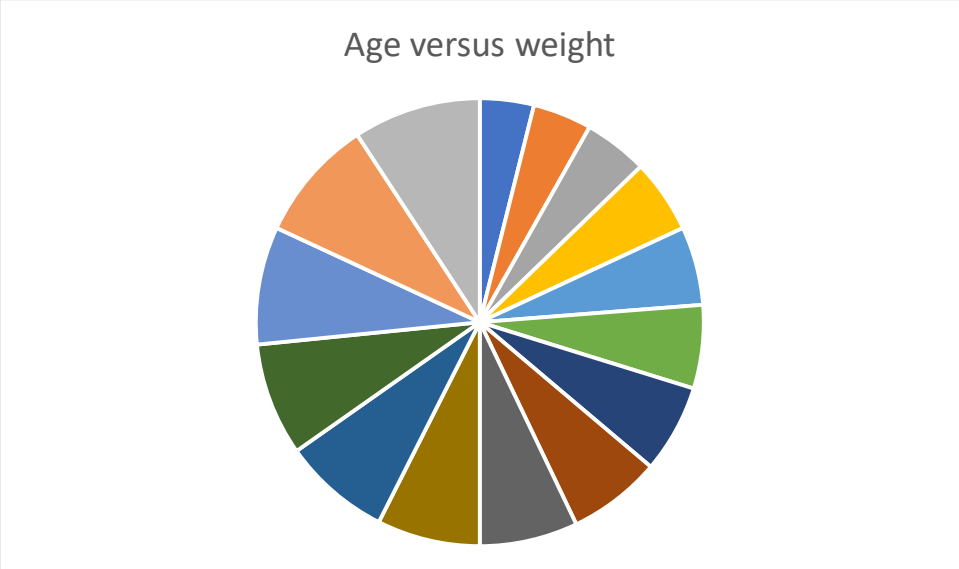


Figure 12: Example of a line graph

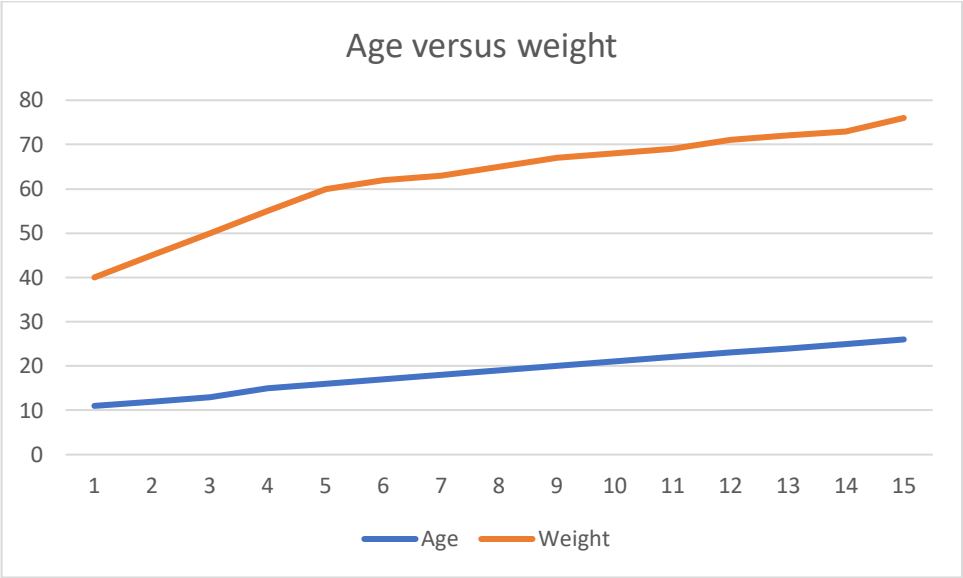


Figure 13: Example of a pie graph

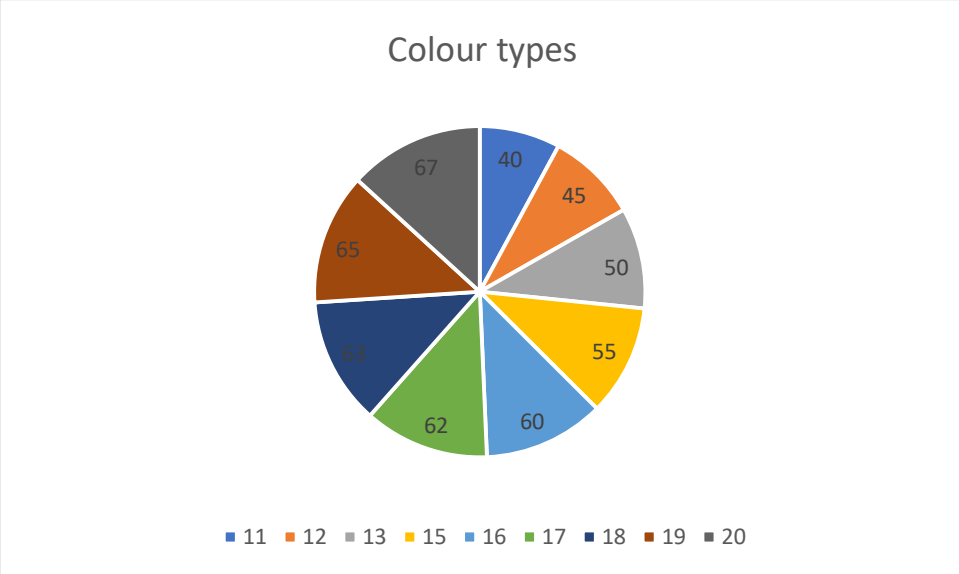
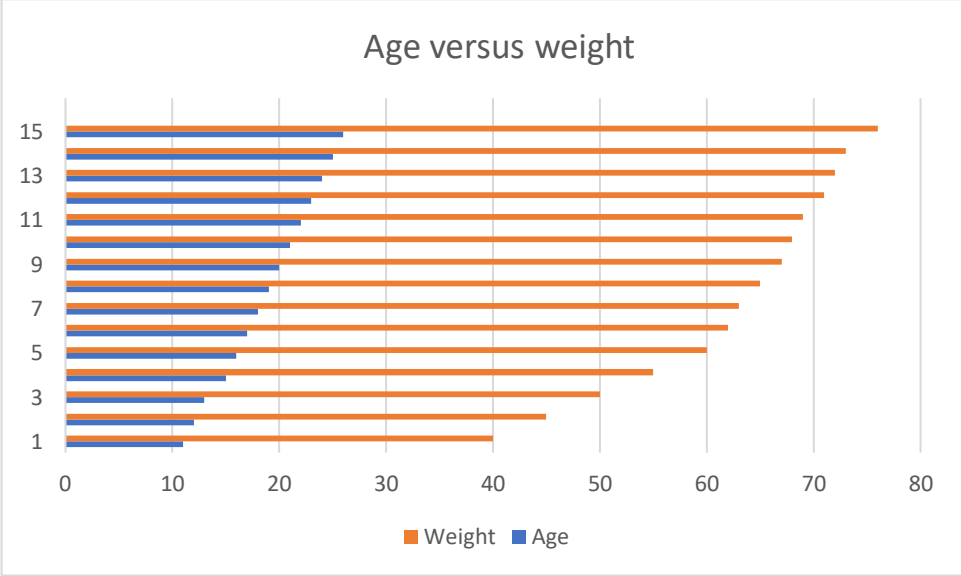


Figure 14: Example of a pictorial graph

Figure 15: Example of a bar graph



A second research template (Table 5) was constructed in order to collect the data.

Table 5: Template of graph types and time-series of graphs

Type	**No**	**Time-series**		
Column		< 5	5 Years	> 5 years
Circle				
Line				
Pie				
Pictorial				
Bar				
Total				

Colour choices (purple, red, blue, green, grey, black, and mixed)

CICA (1993) and Courtis (2004) revealed that the most frequently applied colours were blue, green, purple, red, and grey. This study also employed these colours in its analysis of the use of graphs. Additionally, the pilot study also found that these colours blue, green, purple, red, and grey, with the addition of orange—were the most frequently deployed in GRI-standalone sustainability reports. Previous studies showed that these colours have strong meanings. For example, blue is associated with wealth, trust, and security; grey is associated with strength, exclusivity, success, and dependability; and orange denotes cheapness (Adams & Osgood, 1973). Courtis also revealed that green is seen objectively as cool, fresh, clean and pleasing, and to indicate balance, normality, safety, and good environmental practices. These were investigated in terms of units.

A third research template (Table 6) was constructed in order to collect the data.

Table 6: Template of graph types and colours

Type	**No**	**Purple**	**Red**	**Blue**	**Green**	**Grey**	**Black**	**Mixed**	**Other**
Column									
Circle									
Line									
Pie									
Pictorial									
Bar									
Total									

Topic choices

Definitions

GRI-compliant standalone sustainability reports have separate sections for environmental, social, and economic issues and are divided in three parts. The first contains the company profile, the second presents the management's approach, and the third includes performance indicators. Performance indicators are tools suited to generate non-financial information for sustainability reporting. The GR1 3.1 guideline introduces 84 performance indicators that are either 'core' (56), or 'additional' indicators (28). These are categorised into three areas: environmental (18 core and 12 additional), social (31 core and 14 additional), and economic (seven core and two additional) (Knebel et al., 2015). This study used these indicators and definitions as a guideline to collect data across sustainability domains.

Environmental

The environmental dimension of a sustainability report concerns **"*an organisation's impact on living and non-living natural systems, including the eco-system, land, air, and water*"** (GRI, 2011:35). Environmental indicators pertain to company performance in relation to inputs (e.g., materials, energy, and water) and outputs (e.g., emissions, effluents, and waste). They also cover company performance in terms of biodiversity, environmental compliance, and other relevant information such as environmental expenditures and the impacts of products and services. This consists of materials, energy, water, biodiversity, emissions, effluents, and waste, products and services, compliance and transport.

Social

The social dimension of sustainability reports concerns **"*the impacts an organisation has on the social systems within which it operates*"** (GR1, 2010). GRI social performance indicators include:

- Key performance aspects surrounding labour practices
- Human rights
- Social and product responsibilities

Economic

The G3.1 GRI guidelines explain the economic dimension as concerning **"*the organisation's impacts on the economic conditions of its stakeholders and economic systems at local, national and global levels*"** (GR1, 2010:25). The economic indicators consist of flow of capital among different stakeholders, and the main economic impacts of the organisation throughout society.

A fourth research template (Table 7) was constructed in order to collect the data.

Table 7: Distributions of graphs by topics and categories

Category/Subject matters	Topic	Counting type (Unit)	Total graphs
Environmental			
Social			
Economic			

Presentation of 'good' and 'bad' news

Both the environmental and social literatures (Cerin, 2002; Cho, Michelon, et al., 2012a; 2012b; Jones, 2011; Neu et al., 1998) and the financial graphs literature (Beattie et al., 2008; Beattie & Jones, 1996; Steinbart, 1989) found considerable evidence of graph selectivity. Jones (2011) and Cho et al. (2012a; 2012b) also reported evidence of graph selectivity in environmental and social graphs seeking to give a favourable impression of company activities in order to gain corporate legitimacy. Companies will select those environmental and social graphs that present their business activities in a good light (for example, those that show trends portraying a reduction in air pollution or increases in recycling). There are good topics (e.g., recycling and environmental expenditures) and bad topics (e.g., energy usage, water consumption, and air emissions) (Jones, 2011).

From a corporate perspective, an increasing trend in a good topic, such as recycling, is good news, while a decreasing trend is bad news. Conversely, an increasing trend in a bad topic, such as air emissions, is bad news, whereas a decreasing trend is good news. This study also employed Jones' (2011) notion of good and bad news in the light of the impression management of graphs in the context of GRI-compliant standalone sustainability reports. This study focusses on the time-series of graphs (bar and column graphs). Table 8 illustrates an example of increasing and decreasing trends across environmental and social topics, including Figures 16 and 17. Table 9 is a research template used to collect data of good and bad news graphs (increasing versus decreasing) trends.

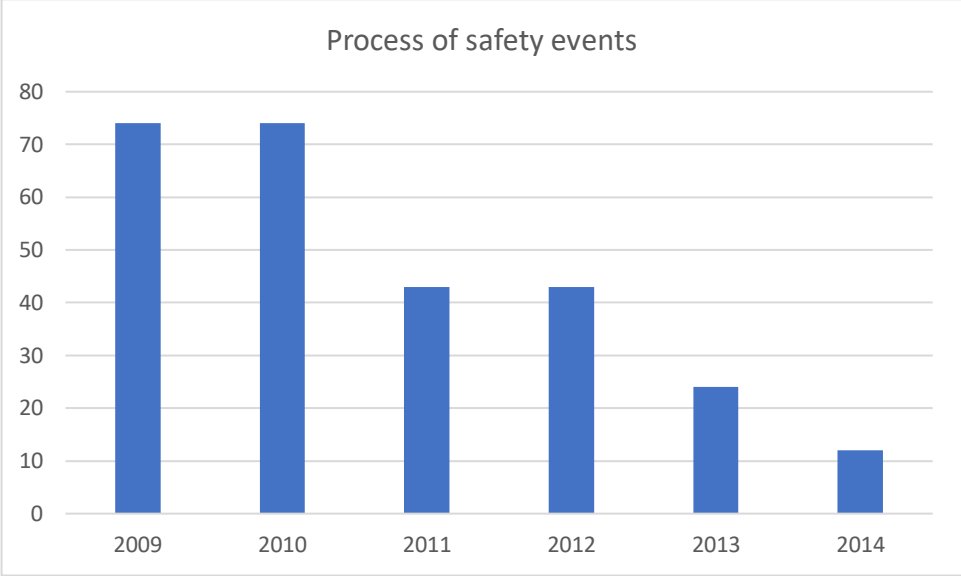
Table 8: Nature of graph discrepancies for exaggerating and understating a graph's trend line

Nature of news	Trends exaggerated	Trends understated
Good news (e.g. increase in recycling)	Favourable to a company	Unfavourable to company
Bad news (increase in greenhouse emissions)	Unfavourable to a company	Favourable to company
Good news (e.g. decrease in greenhouse emissions)	Favourable to a company	Unfavourable to a company
Bad news (e.g. decrease in recycling)	Unfavourable to a company	Favourable to a company

Source: Jones (2011:79)

Figure 16: Good and bad news graph

Figure 17: Good and bad news graph



As the above example shows, there is evidence of the impression management of good news since the trends in the year 2013, in terms of the two variables graphed, were favourable. These two graphs represent potentially bad news but, in each case, the trends graphed for the bad news were downwards and thereby in the company's favour. This suggests that graphs are being used by management to present a self-interested view of corporate performance (impression management).

The G3.1 GRI guidelines suggest that companies should avoid selections, omissions, or presentation formats that are reasonably likely to unduly or inappropriately influence a decision or judgment by the report's readers. A report should include both favourable and unfavourable results, including any topics that can influence materiality. Similarly, in terms of comparability, they suggest that **"*The report and the information contained within it can be compared on a year to year basis*". "*The organisation's performance can be compared with appropriate benchmarks*"** (GRI, 2006:16). However, the evidence suggests that sustainability reports prepared in line with the GRI guidelines have been considered to be inward-looking and

employed for other agendas, such as to promote ‘public relations’ (Dickerson, 2005). Given the problems with the G3.1 GRI guidelines’ application levels A or A+, this study would be expected to find that companies would use impression management in graphs in GRI compliant standalone sustainability reports to portray better performances than warranted. The use of impression management in graphs may benefit companies as users may have neither the time nor the ability to process large amounts of narrative and numerical information. As graphs facilitate both the acquisition and the processing of information, they are regarded as a means of avoiding or at least minimising some of the detrimental effects of information overload (Courtis, 1997).

The degree of selectivity (good and bad news) bias found in the reports was calculated, by company, as the number of favourable item graphs within a specific sustainability domain (environmental and social) divided by the total number of graphs that the company had included in that area. A research template was constructed in order to gather the data, as shown in (Table 9).

Table 9: Good news and bad news environmental and social graphs

Environmental				
	Trends presented favourably to the company	**Overall favourable selectivity bias**	**Trends presented unfavourably to the company**	**Overall unfavourable selectivity bias**
Good news topic				
Bad news topic				
Total				
Social				
	Trends presented favourably to the company	**Overall favourable selectivity bias**	**Trends presented unfavourably to the company**	**Overall unfavourable selectivity bias**
Good news topic				
Bad news topic				
Total				

Measurement distortion

The fundamental principle of appropriate graph design is that the representation of numbers as physically measured on the graph itself should be directly proportional to the numerical values of the variables being represented (Tufte & Graves-Morris, 1983). The G3.1 GRI guidelines state that, in the absence of such proportionality, a sustainability report is to be considered to have been 'greenwashed'. Reports should be free from bias, and graphs should not mislead readers with axes not starting at zero, or by skipping years (GRI, 2011). The violation of this principle is known as measurement distortion.

Given the availability and user-friendliness of graphing tools and business software such as spreadsheets and database packages, it would seem surprising that there is any discrepancy at all between graphs and the data they represent. However, substantial discrepancies do exist, whether purely due to random measurement errors on the part of preparers or to the nature of the distortions. Beattie & Jones (2002) suggested that, if a discrepancy is small (within a ± 5% range), based on the GDI guidelines and/or the nature of the distortion (favourable/unfavourable) it is not statistically relevant to the company's performance, it may be concluded that it is, in fact, a random plotting error and not a deliberate manipulation. However, a considerable body of previous accounting studies (Beattie et al., 2008; Beattie & Jones, 1992; 1997; 1999; 2000a; Muiño & Trombetta, 2009) focussed upon financial graphs in annual reports and found a substantial variation in their use across firms. For example, Muiño & Trombetta (2009:83) argued that **"*two major findings from this research are that graph usage is positively related to improvements in performance, and that where distortion in graph depiction occurs, it tends to portray a more favorable view of corporate performance (relative to the underlying***

***financial data)*"**. Similarly, a few studies have examined the manipulation of graphs in standalone sustainability reports (Cho et al., 2012a; 2012b; Hrasky, 2012; Jones, 2011). Each of these findings is consistent with companies using graphs as tools of impression management. It is anticipated that these practices would be more prevalent in high-sensitive sector industries than in low-sensitive ones. This is because the former will be keener to legitimate their business activities.

Index of measurement distortion

Previous studies (Beattie & Jones, 1992; 1997; 1999; 2000a) investigated the measurement distortion of graphs with the use of the Graph discrepancy Index (GDI) formula in order to establish how accurately the graphs represent their underlying data, which is a variation of Tufte & Graves-Morris's (1983) 'lie factor', as proposed by Taylor & Anderson (1986). It is calculated as:

$$GDI = 100 * [(a/b)-1]$$

Where a = percentage change (in cm) depicted in the graph, i.e., the difference between the height of the last column and the height of first column divided by the height of the first column and multiplied by 100%

b= Percentage change in the data

If a graph is correctly represented, the GDI is zero. Positive (negative) values indicate the percentage by which a trend is exaggerated (understated). Both the exaggeration of upward trends and the understatement of declining trends give more favourable impressions of a company's performance than is warranted. However, the GDI has been criticised by Mather et al. (2005). For example, there are situations in which spuriously high GDIs can appear unless the researcher takes care to discount

them. A further issue of the GDI formula is that it is undefined if there is no change in the data (as the denominator is zero). Mather et al. (2005:158) argued that **"*while the GDI is critical to the aforementioned financial graphics literature, little or no attention has been paid to its robustness and accuracy in determining graph distortions and its reliability in quantifying the magnitude of such distortions. More generally and as a consequence of this, we show that in numerous instances the GDI values calculated are not particularly meaningful and that is not appropriate to use the GDI to identify materially distorted graphs*"**. Mather et al. (2005) developed the Relative Graph Discrepancy Index (RGDI) to overcome several issues inherent in the use of the GDI. The RGDI is defined as:

$$RGDI= (g2-g3/g3)$$

Where g2 is the height of the last column in the graph, and g3 is the correct height of the last column if plotted accurately, i.e.:

$$g3= g1/d1*d2$$

Where:

g1= height of first column (graph);

d1= value of first data point (corresponding to the first column)

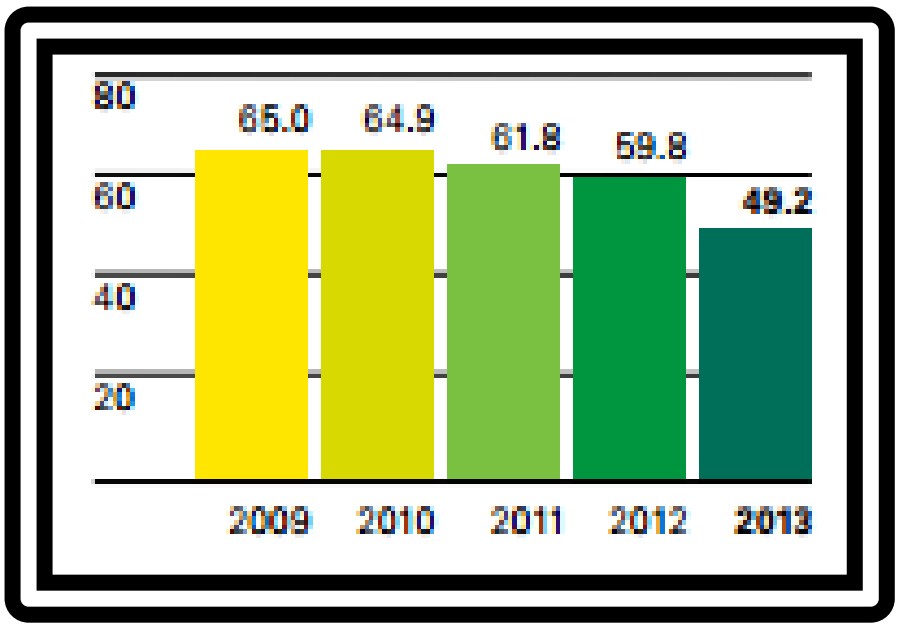
d2= value of last data point (corresponding to last column).

Mather et al. (2005) argued that the RGDI is a better measure of graph distortion for a number of reasons: (i) it is consistent with the range of expected input values and it is linear; (ii) the issue of sensitivity to small changes in large data does not arise as the graph is scaled to reflect the data; and (iii) the only discontinuity in the function

is when the last data point is zero. When no distortion occurs, the RGDI measure takes a value of 0, suggesting that the change observed in the data is correctly portrayed in the graph. The RGDI is positive when an increasing trend is overstated or when a negative one is understated. The measure includes negative values when increasing trends are understated or decreasing trends are exaggerated. Mather et al. (2005) concluded that an RGDI = 0.025 would be similar to a GDI = 5.

As an example, figure 18 shows a positive RDGI exaggerated by 242%. In this case, the RGDI is favourable to the company, which has overstated the graph by exaggerating the trend lines. As Beattie & Jones (2002) provided experimental evidence illustrating that distortions in excess of 10% have an impact on users, this will affect the users of the standalone sustainability report.

Figure 18: Measurement distortion graph



The calculations for figure 18 are as follows:

G3= G1/D1*D2 G3= 19/65*49.2= 14.38

RGD1= G2-G3/G3 RDG1= (49.2-14.38/14.38) *100%= 242%

The current study employed the RGDI to calculate distortion in graphs. Following Mather et al. (2005) and Muiño & Trombetta (2009), this thesis used a 2.5% cut off as the threshold to classify graphs as being materially distorted. The results were interpreted through descriptive statistics such as mean, percentage, and ratio.

The nature of the discrepancies found to be exaggerating and understating a graph's trend lines is reflected in Table 10 or the impression management of both selectivity and measurement distortions. A research template was designed in order to collect the data for the measurement distortion in graphs as shown in Table 10.

Table 10: Template of measurement distortion of environmental and social graphs

Environmental						
	Good news		**Bad news**		**Overall**	
Type of trend	**FDS**	**UNFDS**	**FDS**	**UNFDS**	**TFDS**	**TUNFDS**
Increasing trend						
Decreasing trend						
Total						
Social						
	Good news		**Bad news**		**Overall**	
Type of trend	**FDS**	**UNFDS**	**FDS**	**UNFDS**	**TFDS**	**TUNFDS**
Increasing trend						
Decreasing trend						
Total						
Keys: FDS: Favourable distortions **UNFDS**: Unforavourable distortions **TFDS**: Total favourable distortions **TUNFDS**: Total unfavourable distortions						

4.3.3 Sustainability report sample size and selection; high and low sensitive industry sectors

This study used the GRI guidelines disclosure website for data collection, which was centred upon four high sensitive industry sectors (energy, chemical, automotive, and mining) and four low sensitive ones (media, financial services, retail, and telecommunication). The split between high and low sensitive sectors is a matter of opinion; opinion differ; and things change over time. For example, in 2008, the financial service crisis was under the spotlight. The activities of banks and other financial service institutions were more than ever under scrutiny, not only by the local and international regulators, but also by a wider public including clients, employees and investors. Financial services industry is considered high sensitive because of its influence on financial well-being and its large 'social footprint'. As a result, stakeholder groups are deeply interested in its activities (Simnett et al., 2009)., which has resulted in companies reporting their CSR. Environmental activities have become extremely important in the financial service sectors that led Barclay bank to introduce green credit card as a notion of being 'greener'. Kolk & and Perego (2010) argued that the financial services industry is highly exposed to environmental and social risks, and the need to increase user confidence in the credibility of their sustainability reports.

However, the high-sensitive industry sectors in current study were chosen based on the scope of the sustainable development problems they face, the intensity of external pressure including media coverage (Gunther et al., 2007; Amnesty International, 2009., cited in Boiral, 2013). The low-sensitive industry sectors were chosen based on Jones's (2011) contention that these have significantly lower

environmental impacts and are thereby subject to lower stakeholder pressure and are associated with fewer visible environmental issues.

Dowling & Pfeffer (1975:23) suggested that **"*while legitimacy is a constraint on all organisations, it is likely that it affects some organisations more than others. This is because (1) some organisations particularly high sensitive industries are more visible (2) some organisations depend relatively more heavily on social and political support*".** Similarly, the social and environmental literature suggests the importance of high- and low-impact industries on the nature and extent of environmental disclosure (Hackston & Milne, 1996). As an example, Cerin (2002:61) argued that **"*Companies in sectors under pressure attempt to gain legitimacy by telling their side of the environmental story, steering public attention into more positive directions and therefore away from actual problems*".**

Bowen (2000., cited in Brammer & Pavelin, 2008) argued that industries with high environmental impacts tend to be closely associated with highly visible environmental issues (e.g., global warming and water pollution). Such an association would be expected to intensify environmental stakeholder scrutiny and stimulate environmental disclosure activism. For instance, the Environmental Agency imposes direct regulations on a subset of industrial activities (e.g., chemical works, power stations, cement works, waste management plants, and industries that use radioactive materials) that require routine assessments of environmental impacts. A body of empirical literature associates the metallurgy, resources, paper and pulp, power generation, water, and chemical sectors with high environmental impacts (Bowen, 2000; Morris, 1997; Hoffman, 1999., cited in Brammer & Pavelin, 2008). By contrast, other industries particularly newer manufacturing and service sectors ones have significantly lower environmental impacts and are associated with fewer visible

environmental issues (Brammer & Pavelin, 2008). Therefore, companies in these industries are expected to be subjected to significantly lower stakeholder pressures regarding their environmental performance and would thus be expected to display lower degrees of disclosure. The findings of Aerts et al. (2008) were also consistent with those of previous studies, which documented that companies operating in environmentally sensitive industries publish more environmental information (Patten, 1991; Hackston & Milne, 1996). Therefore, this study anticipated that the sample companies in the high-sensitive sectors (energy, mining, automotive, and chemical) would devote more space to visuals than those in the low sensitive sectors (media, financial services, retail, and telecommunication). Additionally, and in general, all areas in the high-sensitive sectors would also see a greater use of graphical disclosures than those in the low-sensitive sectors.

Furthermore, in order to limit this study to companies that systematically used the GRI guidelines, only those sustainability reports that conformed to the highest application levels (A and A+) were selected. In theory, the application level determines the level of completeness and transparency found in a sustainability report (GRI, 2006) in terms of addressing all the core indicators in the GRI guidelines. The content analysis focussed on reports published in 2014 because they were the most recent reports available in the GRI website disclosures. It also focussed on G3.1 GRI A or A+ application level standalone sustainability report guidelines because they were the most up to date before the G4 guidelines.

The total final sample included 69 companies: 35 from high-sensitive industry sectors and 34 from low-sensitive ones, as shown in Appendices 1 and 2. This follows Patten's (1991) argument that an organisation's political visibility, which is influenced by the industry sector to which it belongs, is linked to disclosures aimed

at legitimating it. This study also focussed on large global companies that used the A or A+ GRI application levels (see Table 12 in Chapter 5).

The criteria for the sample selections were as follows:

- The companies needed to be large and had to comply with the A or A+ GRI application levels.
- The companies needed to be registered in the GRI database.
- The standalone sustainability reports had to be published in English.
- The sample needed to include companies from both high- (chemical, energy, automotive, and mining) and low-sensitive industry sectors (media, financial services, retail, and telecommunication), which was made possible by the GRI database.

4.3.4 The interviews

Although it employed semi-structured face to face interviews, this study also acknowledges their weaknesses, as discussed. In order to overcome the issues associated with semi-structured face to face interviews and to obtain a greater access to respondents, this thesis also made use of Skype interviews. Saunders & Lewis (2012) also emphasised that, in order to increase the numerosity of interview responses, the researcher should offer a number of options to the participants in regard to the manner in which the interview process may be conducted.

Skype interviews allowed the face to face semi-structured interviews to be conducted with the interviewees in their own time and locations, which, in turn, saved both time and money. Skype interviews had some disadvantages; body language could not be

used to gain extra information and there was the risk of technical issues occurring during the interviews. However, this study was not marred by any technical issues.

The interviews were conducted with six key preparers of GRI-compliant corporate sustainability reports who were involved in the decision-making process of the impression management choices. The interviewees were selected from the GRI guidelines disclosure database based on the criteria set in Section 4.3.3. This was attained by sending emails to the selected GRI-compliant companies and based on the responses received and first come rules. Formal interview invitation letters were sent out via email to 69 GRI A and A+ compliant companies. The letters included a brief introduction of the research background, together with a short description of the research study and of the key topics to be addressed. Overall, out of the 69 invitations sent out, six companies agreed to participate. A few others responded but did not eventually participate primarily due to lack of available time and human resources. The interviews were conducted with four companies from high-sensitive industry sectors and two from low-sensitive ones, as shown in Table 11.

Table 11: List of high and low sensitive sectors interviewees

Industry	**No**
High sensitive sectors	
Chemicals	0
Energy	1
Automotives	0
Mining	3
Total	**4**
Low sensitive sectors	
Financial services	2
Telecommunications	0
Media	0
Retailers	0
Total	**2**
Overall total	**6**

Within the high-sensitive sector companies, the interviews were conducted with three directors from mining companies and one manager from an energy company. A further two interviews were conducted with managers from financial service companies (a low-sensitive industry sector).

Interview questions

The interviews were conducted to investigate the process of sustainability report preparation within the sample companies, and the degree of preparer awareness of visual impression management through the use of graphs, including colour. In order to answer the research questions, several research sub-questions were designed as follows:

- Who is responsible for the preparation of the standalone sustainability reports? Who authorises their publication?
- Who is responsible for the insertion of visual materials? How are they selected?
- Who is responsible for the preparation of graphs? How are they prepared?
- Why are graphs used in the standalone sustainability reports?
- Are the preparers aware of graph manipulation?
- How much does it cost to prepare the standalone sustainability reports?
- How long does it take to prepare the standalone sustainability reports?
- How many people are involved in preparing the standalone sustainability reports?
- Who is responsible for the selection of colours in graphs? How are they selected?

All the above research sub-questions added to the theoretical framework in the context of the impression management framework and legitimacy theory. They could provide information which either supported or refuted these theories, provide answers to the research questions, and make an important contribution to the literature.

The interviews conducted with the preparers enabled to gain an in-depth understanding of the impression management choices made within each organisation. The rationale for using this method was that it answers *how* and *why* questions, not only adding to the quantitative research methods but also creating a better understanding of the phenomenon. Qualitative research was also used to validate the quantitative research findings. A vital motivation for the implementation of semi-structured interviews as the secondary research method in this study was that

the researcher recognized the interviewees' opinions as being valuable and effective. Their subjective views on the impression management choices of graphs in standalone sustainability reports within their organisations were relevant. The researcher's aim was to ensure that the nature of the interviews was consistent with the research questions and objectives, and that the purpose of the research and the research strategy would be implemented.

Interview sample selection and data collection

Saunders & Lewis (2012) argued that sampling is a useful and valid alternative to a census when the survey of an entire population would be impractical and prevented by both budgetary and time constraints. All these considerations were relevant to this study.

As the semi-structured interviews played a secondary/supporting role, this thesis made use of non-probability convenience sampling since it was less complicated and cheaper to implement and it met the research objectives. The researcher was also aware of the weaknesses of this method such as bias and the risk of selecting a non-representative sample.

The interviews were conducted with six key preparers of GRI-compliant corporate sustainability reports who were involved in the decision-making process of the impression management choices. The interviewees were selected from the GRI guidelines disclosure database based on the criteria set in Section 4.3.3.

There were two reasons behind the selection criteria. Firstly, the preparers of the standalone sustainability reports were expected to have a good understanding of the decision-making process involved in the preparation of the standalone sustainability reports and were considered to be able to address the general interview questions.

Secondly, all preparers were involved in initiating, preparing, and publishing the standalone sustainability reports; it was therefore recognised that, to some extent, they may have in-depth perceptions regarding the impression management choices made within their organisations as they were assumed to communicate with key decision-makers in the standalone sustainability report preparation process.

As discussed, this study's sample size was small; however, previous studies have shown that, for all non-probability sampling techniques other than quota samples, there are no rules. For example, Saunders et al. (2012:283) argued that **"*In addressing this issue, many research textbooks simply recommend continuing to collect qualitative data, such as by conducting additional interviews, until data saturation is reached; in other words, until the additional data collected provides few, if any, new information or suggests new themes*"**. This was the case in this study, as most of the data provided similar themes/information, and further interviews would have made no difference to the overall findings.

Similarly, Myers (2013:167) argued that **"*Reviewers tend to think that 20 interviews are better than ten, or ten interviews are better than five. This is often an invalid objection in my opinion, since, as I said earlier, I am not convinced that there is such a thing as ideal number of interviews*"**.

The duration of the interviews ranged from 30 to 40 minutes, as shown in Appendix 59. Three of the interviews were conducted face to face at the respective preparers' offices and three were conducted through Skype. The interviewer prepared some standardised questions for all interviewees. However, the semi-structured nature of the interviews meant that follow-up questions were also asked. The interviews were recorded though the Evaer software and the researcher also took notes as they

progressed. The joint use of both methods presents a number of advantages, as identified by Saunders & Lewis (2012:394): **"*Notes provide a back-up if the audio-recording does not work. Making notes may help you to maintain your concentration, formulate points to summarise back to interviewee to test your understanding and devise follow-up probing question*".** Notes would also assist in avoiding any accidental loss of data (Bell & Bryman, 2007) including the danger of missing any important points.

Analysis and display of interview data

Qualitative research almost always generates huge amounts of data and researchers have to figure out what they are going to do with them. Myers (2013) argued that a one-hour interview may yield 7,000 words. Hence, the data need to be reduced into manageable form. Similarly, in his book *Writing Up Qualitative Research*, Wolcott argued that the primary critical task in qualitative research **"*is not to accumulate all the data you 'can', but to get rid of much of the data you accumulate*"** (Wolcott, 2008, p. 79). This does not suggest that there are no techniques for ordering, coding, and categorising the empirical materials or for looking for patterns or dynamic aspects of the data.

Qualitative data analysis approaches assist in doing this. They assist in identifying some of the important aspects of the data (Myers, 2013). The current study used quoting as it reflects the context within which the interviews were undertaken; the originality of the quotes can therefore be a powerful way of communicating one's findings. However, the researcher kept a balance between quotes and interpretations. Each quote did not make up more than half a page of the text in a chapter. In accordance with qualitative data analysis (Bryman, 2008), the analysis of each interview transcript was conducted by developing numerous key themes based on the

questions asked. The coding process was employed to provide evidence reflecting the interviewees' ideas on any emerging themes and helped to reduce the transcript volume. Moreover, the detailed recorded transcripts and interview summaries were noted and analysed to extract the discussion and conclusions. Bazeley (2007:8-11) suggested that the researchers' input is vital in the data analysis process as they possess the theoretical perspective to understand the nature of social reality, which the software does not. Thereby, the empirical data were analysed manually.

Ethical issues

Ethical concerns are greatest when a research investigation involves human participants (Saunders & Lewis, 2012). Saunders & Lewis (2012:226) defined research ethics in the context of research as those that "***refer to the standards of behaviour that guide your conduct in relation to the rights of those who become the subject of your work, or are affected by it***". There are four main areas that define violations of the principles of ethics:

1. Whether there is harm to participants.
2. Whether there is a lack of informed consent.
3. Whether there is an invasion of privacy.
4. Whether deceptions are involved.

The interviews pertaining to this thesis were conducted with awareness of the ethical issues, and the importance of ethics was recognized throughout the research process. This involved ethical integrity on the part of the researcher, of any organisational gatekeeper(s) involved, and, where appropriate, of the research's sponsors (Saunders & Lewis, 2012).

All interviewees were expected to be likely to provide information in an honest manner if the questions were asked in a comfortable atmosphere of mutual trust. All organisational participants were treated with dignity and subjected to minimum discomfort. The assurance of confidentiality was mentioned in the interview invitation letter, which briefly outlined the purpose of the research, how the person being contacted may be able to help, and what was likely to be involved in participating. The letter was short and clearly written, its tone was polite and aimed at generating interest on the part of the intended respondents. The researcher guaranteed that no private interviewee information would be disclosed throughout the course of this study.

Additionally, at the beginning of each interview, the interviewer introduced the objective of the research and guided the direction of the interview. Each participant was also reassured that there were no right or wrong answers to the questions and that their responses would be treated in confidence.

Each interview was recorded with the explicit consent of the participants, who were reassured that they had the right to withdraw at any time. An interview guide was designed and used as a prompt to ensure that all the key issues would be addressed. Maylor & Blackmon's (2005) study defined the key ethic principles to be followed during the of write-up phase of a research project. They are:

1. Preservation of privacy-confidentiality must be preserved.

2. Data representativity- the data are to be reported and analysed honestly.

3. Taking responsibility for the finding- the findings are to be upheld, especially if they go against expectations.

Summary

The research methodology and methods used in this study were highlighted in this chapter. The two research methods employed in the study namely, content analysis and semi-structured interviews were discussed in detail. This chapter outlined how the quantitative content analysis and semi-structured interviews were conducted. It also highlighted the limitations of each method, and presented recommendations for conducting the main study. The next chapter will present the findings on the length and make-up of the sample GRI-compliant standalone sustainability reports.

Chapter Five: The length and make-up of standalone sustainability reports

5.1 Introduction

This chapter investigates the length and make-up of standalone sustainability reports by addressing the following questions:

- What is the distribution of the length and make-up of stand-alone sustainability reports (numbers, narratives, visuals, mixed materials and blank space)?
- Does such length and make-up differ between high- and low-sensitive companies?

The analysis was conducted and is presented as follows;

- firstly, for all companies, and;
- secondly, between high- and low-sensitive industry sectors.

This chapter is structured as follows: (i) firstly, it presents the findings on the overall length and make-up of the standalone sustainability reports published by all sample companies (as shown in Section 5.2); (ii) secondly, it analyses these findings with regard to the four high-sensitive industry sectors (chemical, energy, automotive, and mining) and the four low-sensitive ones (financial services, telecommunications, media, and retail) (as shown in Section 5.3).

The findings address the length and make-up of the standalone sustainability reports published by the sample GRI A and A+ compliant companies in 2014. As discussed in Chapter one, Section 1.4, the difference between the A and A+ application level reports is that the latter are externally audited. A search of the 2014 GRI disclosure database yielded a final sample of 69 companies worldwide. These represented eight different industry sectors: four high- and four low-sensitive ones, as shown in Table 12 and Appendices 15-22.

Table 12: High and low-sensitive industry sectors and sample numerosity

		GRI Guidelines	
Industry	**No**	**A+**	**A**
High-sensitive industry sectors			
Chemicals	9	8	1
Energy	18	16	2
Automotive	3	3	0
Mining	5	4	1
Total	**35**	**31**	**4**
Low-sensitive industry sectors			
Financial services	21	19	2
Telecommunications	8	6	2
Media	2	2	0
Retail	3	3	0
Total	**34**	**30**	**4**
Overall total	**69**	**61**	**8**

The largest representation in the high sensitive industry sectors was made up of 18 companies from the energy sector, while the smallest was represented by three companies from the automotive sector and five from the mining sector. On the other hand, 21 companies from the financial service sector constituted the largest representation in the low-sensitive industry sectors, while two from the media sector and three from the retail sector made up the smallest. Additionally, there were a total of 61 GRI A+ standalone sustainability reports and eight GRI A ones. The total GRI A reports were four in the high-sensitive industry sectors and four in the low ones. There were also imbalances between sectors due to the limited data available in the GRI disclosures database.

The content of the sample standalone sustainability reports was investigated in the context of their overall page length and sub-analysed in terms of the material presented as: (i) numbers; (ii) narratives; (iii) visuals; (iv) mixed materials; and (v) blank space. The visuals were further sub-categorised into: (i) graphs; (ii) pictures; (iii) diagrams; (iv) charts; and (v) maps. Similarly, mixed materials are categorised into narratives mixed with: (i) numbers; (ii) graphs; (iii) pictures; (iv) diagrams; (v) charts; and (vi) maps. The counting method employed to measure the size of the data was *units of page numbers* for the overall length of the standalone sustainability reports, and *space* for the sub-analysis of different media. The methodology was discussed in detail in Chapter Four, Section 4.3.1.

The focus of the investigation was the length and make-up of standalone sustainability reports published in 2014. These issues are important as standalone sustainability reports are still largely unregulated in format, making non-regulated disclosures opportunities for 'impression management' (Merkl-Davies & Brennan, 2007:118). Prior studies by Lee (1994), Davison & Skerratt (2007), and Beattie et al. (2008) documented the content of annual reports. Duff (2016) and Pesci & Costa (2014) documented the content of sustainability reports.

The annual report's function has largely changed from that of a regulatory financial document to that of a presentation-driven impression management tool in which narratives, pictures, and graphs frame (Tversky & Kahneman, 1986, cited in Davison, 2010). Bernard (2002:33, cited in Greenwood, Haylock & Uhlenbruch, 2008) considered the annual report as one of the key means to win the **"*hearts and minds of millions of stakeholders, potential stakeholders, and those who influence stakeholders*".** Hence, the complexity of global matters, including the financial

crisis, led to a growing 'beyond text' interest (AHRC 2007-2012) in the role played by visuals in the dissemination of financially relevant information (Davison, 2015).

Similarly, the number of standalone sustainability reports published has grown dramatically over the past two decades and have become material to stakeholder decision making (Cho et al., 2009). Studies suggest that, to some extent, the increasing publishing and adoption of systematic standards such as the GRI guidelines has undoubtedly assisted in improving the rigour of sustainability reports (Dando & Swift, 2003). However, the reliability and transparency of standalone sustainability reports remain controversial. On the one hand, the reporting process does not necessarily assist and improve a company's sustainable development performance or strengthen its commitment to sustainability. On the other hand, the information disclosed tends to reflect business interests rather than a genuine concern for accountability (Adams & Zutshi, 2004; Laufer, 2003). Therefore, the interest of this research was to document the overall length and make-up of sustainability reports to see what proportions were devoted to visual materials and, hence, to possible impression management, which is the focus of chapter seven.

5.2 Length and make-up of SASRs and comparison with prior studies on ARs

Table 13: Analysis of standalone sustainability reports across all companies

	Total no of pages	%	Average	Minimum length in pages	Maximum length in pages
Numbers	13	0.20	0.20	0.01	4
Narratives	2556	39	37	4.50	150
Visuals	808	12	11.5	1.50	38
***Mixed materials**	1050	16	15	2	73.50
Blank space	2181	33	31.5	1.50	87.5
Total pages	6608	100	96	28	267

***Key: Mixed materials consist of (i) narratives mixed with numbers (ii) narratives mixed with (i) graphs (ii) pictures (ii) diagrams (iv) charts and (v) maps**

***Key: Percentage calculation numbers (13/6608*100: 0.20)**

***Key: Average calculation numbers (13/69: 0.20)**

The general overall length and make-up of standalone sustainability reports is displayed in Table 13 and Appendices 3-6 (high-sensitive industry sector) and 7-10 (low-sensitive industry sector). The initial analytical focus on standalone sustainability reports was on their absolute volume based on units and space. The four important presentational formats focussed upon in terms of ranking were: (i) narratives; (ii) blank space; (iii) mixed materials; and (iv) visuals.

Although, there hasn't been any research in the overall length and make-up of standalone sustainability reports, the present study will make a comparison with the annual reports, to see specificially what proportions of visuals are included in the standalone sustainability reports. Since visuals (graphs including pictures) are unregulated in both annual and standalone sustainability reports.

Narratives were found to occupy the largest amount of space (39% overall), which is in line with previous studies on annual reports (Lee, 1994; Davison & Skerratt, 2007; Beattie et al., 2008) and on standalone sustainability reports (Duff, 2016; Pesci & Costa, 2016). However, the total volume of space devoted to numerical material in standalone sustainability reports was observed to be very small (0.20% overall). This may be due to the nature of standalone sustainability reports, which are regarded as non-financial and aimed at wider stakeholder groups.

On the other hand, the use of visuals and mixed materials were found to jointly amount to almost 30% overall. This is an important finding as visuals are known to have a special place in memory and cognition (Beattie & Jones, 1992). Whereas they may provide incremental information, visuals may also be considered as an impression management tool (Beattie et al., 2008; Beattie & Jones, 1992; 2000; 2002; Davison, 2010; Goffman, 1959). Davison (2013:58) argued that **"*visualisation***

***can provide important framing and impression management to the reception of information and thus influence decision-making, and can portray messages beyond the capacity of accounting statements*"**.

Additionally, standalone sustainability reports also include substantially more blank space, which may be employed as part of structural manipulations strategies to represent corporate performance in the best possible light (Merkl-Davies, 2007).

Visual materials, especially graphs, provide the main focus of the remaining chapter of this thesis. Table 14 places the findings on the length and make-up of standalone sustainability reports (2014) in the context of previous work on annual reports and sustainability reports.

Table 14: Present study's findings compared to prior studies' findings

	Sample population/Year	Sample size	Report types	Numbers Average pages	Narratives Average pages	Visuals Average pages	Average length per company in pages	Minimum length in pages	Maximum length in pages
Lee (1994)	Top UK companies (1998)	25	Annual reports	Not known	19	10	54	Not known	Not known
Davison & Skerratt (2007)	FTSE 100 (2002)	100	Annual reports	7	24	10	90	40	340
Davison & Skerratt (2007)	FTSE 100 (2002)	100	Annual reviews	7	17	9	35	8	100
Beattie et al. (2008)	FTSE 500 (2003/2004)	100	Annual reports	Not known	38	6	75	Not known	Not known
Pesci & Costa (2014)	Italian Cooperative banks (2008)	98	SERs	Not known	39	Not known	Not known	Not known	Not known
Duff (2016)	Largest Accounting companies UK (2009)	20	Annual review, CSR, Web pages, Recruit pages	Not known	101	3	Not known	Not known	Not known
Present study	GRI A and A+ (2014) (largest worldwide companies from GRI disclosures database)	69	SASRs	0.20 **(See Table 13)**	37 **(See Table 13)**	11.5 **(See Table 13)**	96 **(See Table 13)**	28 **(See Table 13)**	**267** **(See Table 13)**

According to Lee (1994), based on 25 large British companies, the average length was of 54 pages. Davison & Skerratt (2007) updated certain aspects of Lee's study based on a sample of the entire 2002 year-end reporting documents of the UK FTSE 100. The samples were not strictly comparable in that Davison & Skerratt (2007) conducted a research on the very largest companies, including both financial and industrial ones. Davison & Skerratt (2007) found that the average length was of 90 pages for annual reports and of 103 pages for companies that published both annual reports and annual reviews. Beattie et al. (2008) conducted research based on 100 of the top 500 UK listed companies and found that the total average length was of 75 pages.

The current study is comparable with the studies conducted by Davison & Skerratt (2007) and Beattie et al. (2008), in that it focusses on the largest worldwide companies, but is more up to date, as it examines standalone sustainability reports published in 2014. It has been anticipated that, since standalone sustainability reports are unregulated and more detailed and comprehensive, they may provide companies with an opportunity to include more discretionary information. As anticipated, the results presented in Table 14 show that, in the year 2014, each company had devoted an average of 96 pages to sustainability issues.

Additionally, the longest annual report in Davison & Skerratt's (2007) study was of 200 pages and the shortest was of 48. Similarly, the longest report published by companies that produced both documents was of 340 pages and the shortest was of 40 pages. On the other hand, the longest standalone sustainability report in this study's sample was of 267 pages and the shortest was of 28 pages. Standalone sustainability reports have therefore become substantial documents when compared to annual ones. This study's findings are also in agreement with this study's

theoretical framework, which suggests that voluntarily supplied information is important as it provides environmental, social, and economic indicators suited to influence both the capital market and society at large and may facilitate incrementally transparent carriers of intended organisation messages. On the other hand, voluntary disclosures are generally made for reasons of impression management and strategy, and have little or nothing to do with any perceived responsibilities and obligations. This may assist companies in attracting financial stakeholders and deflecting criticism (Jones, 2011).

The next section breaks down the content of the sample standalone sustainability reports into: (i) numbers; (ii) narratives; (iii) visuals; (iv) blank space; and (v) mixed materials.

5.2.1 Analysis of the use of numbers by all companies

This research was interested in establishing the proportions of numbers in standalone sustainability reports compliant with the A and A+ GRI standards. This is a new area that had only previously been researched by Davison & Skerratt (2007) and not in relation to standalone sustainability reports. Tables 13 and 14 illustrate that, on average, 0.20 pages were devoted to numbers overall, with an average variation ranging from a minimum of 0.01 pages to a maximum of 4 pages by all companies. In general, the numbers published in standalone sustainability reports represent the corporate performance across environmental, social, and economic issues, including the expenditures that companies have incurred in these areas. As anticipated, a small proportion of numbers was found in standalone sustainability reports, which may be due to the non-financial nature of the documents. Additionally, the purpose of standalone sustainability reports is to address any environmental and social issues; financial information is included in annual reports and companies may not wish to publish the same information twice.

5.2.2 Analysis of the use of narratives by all companies

This research was then interested in establishing the relative proportions of narratives in standalone sustainability reports compliant with A and A+ GRI standards.

Lee (1994) found that the total space devoted to narratives in the sample documents was 35%. Davison & Skerratt (2007) reported that the total use of narratives, particularly by those companies that publish two documents, were 27% for companies publishing only an annual report and approximately 23% for companies

publishing both documents. On the other hand, Beattie et al. (2008) revealed that the total amount of space devoted to narratives between 2003 and 2004 was by far higher (51%) than that reported by Lee (1994) and Davison & Skerratt (2007). This increase in textual materials was principally accounted for by new factual, descriptive sections devoted to issues such as remuneration and corporate governance.

Duff (2016) revealed that the total amount of space devoted to narratives was 85% (CSR, Annual reviews, and website and recruitment materials). Pesci & Costa (2014) revealed that the total amount of space devoted to narratives was 39%. This concurs with the findings of this study, as shown in Table 15. This increase in textual narratives in standalone sustainability reports is due to the comprehensive nature of the GRI guidelines, specifically, of the A and A+ ones which consists of 55+ indicators, enabling companies to disclose detailed information across sustainability domains.

Table 15: This study's narratives findings compared to those of previous studies

	Report types	Average narrative page counts	Average proportions of the whole documents in %	Minimum length in pages	Maximum length in pages
Lee (1994)	Annual report	19	35	Not known	Not known
Davison & Skerratt (2007)	Annual report	24	27	7	62
Davison & Skerratt (2007)	Both annual report and annual review	24	23	1	114
Davison & Skerratt (2007)	Annual review	17	49	2	41
Beattie et al. (2008)	Annual report	38	51	Not known	Not known
Pesci & Costa (2014)	CSR	Not known	39	Not known	Not known
Duff (2016)	CSR, Annual reviews, website and recruitment materials	102	85	Not known	Not known
Present study	Standalone sustainability report	37 (See Table 13)	39 (See Table 13)	4.6	149.8

5.2.3 Analysis of the use of visual materials by all companies

This research was further interested in establishing the relative proportions of visuals in standalone sustainability reports compliant to GRI guidelines. Whereas previous studies had investigated pictures and graphs, this study sub-categorised visuals into graphs, pictures, diagrams, charts, and maps, as shown in Table 16. Visuals such as diagrams, charts, and maps are under-researched; this is the first study to have investigated them in standalone sustainability reports. As anticipated, the total amount of space devoted to visuals was approximately 12% (as shown in Tables 13 and 14). The total average of average pages per company was approximately 11.5, with an average wide variation ranging from a minimum of approximately 1.50 pages to a maximum of 38. This study's findings concurred with those published by Boiral (2013), Duff (2016), and Pesci & Costa (2014). For example, Boiral (2013) and Duff (2016) found a widespread use of visuals in standalone sustainability reports. Pesci & Costa (2014) found that, on average, visuals occurred every 0.9 pages.

Additionally, a further analysis of the discretionary content and of the different presentational modes of pictures and graphs is shown in Table 16. The total overall space devoted to pictures in standalone sustainability reports was 8 pages, compared to 4 in annual reports and 10 in annual reviews. This is much greater quanity given that pictures carry a much richer variety of messages (Davison & Skeratt, 2007) and communicate intangible assets that cannot be expressed by financial statements. Given that traditional accounting deals inadequately with intangible assets and that companies have no alternative but to use other means such as pictures and words to communicate them, both lay and experts readers are regarded to pay more attention

to the discretionary information presented in words and pictures than to accounting statements (Bartlett & Chandler, 1997). This is also in line with this study's theoretical framework, which views pictures as being ubiquitous, multi-faced, carrying complex and co-existing messages, being open to rich and varied interpretations, playing interwoven roles in incremental information and impression management, having a special place in memory and cognition, and wielding emotive powers. Pictures/photographs have more impact and power than financial graphs since they are directly linked with organisations and society through abstract forms and through representations of people, objects, and places, even if they do not like graphs, instantly respond to the accounting figures (Davison, 2014).

Lee (1994) and Beattie et al. (2008) did not investigate the proportion of space devoted to graphs in annual reports, although Beattie et al. (2008) did investigate the use of graphs in terms of units. Conversely, Davison & Skerratt (2007) did investigate the proportions of graphs used in terms of space and found that companies devoted an average of one page to graphs in their annual reports; an average of one page for companies publishing both documents and an average of one page for companies publishing annual reviews.

However, Table 16 shows that the total average amount of space devoted to graphs in standalone sustainability reports was of approximately two and half pages, which is another important finding. In line with current theoretical framework, graphical disclosures may provide incremental information, facilitate understanding, save money in analysing data and highlighting and summarising trends, clarify relationships, and also break-down language and culture barriers. Conversely, the unregulated and unaudited nature of graphs may also cause them to be used as impression management tools suited to portray corporate performance in a more

positive light. There has been overwhelming evidence of graph manipulations both in annual reports (Beattie & Jones, 1992; 2000a; 2001; 2008; Courtis, 1997) and in standalone sustainability ones (Cho et al., 2012a, 2012b; Hrasky, 2012; Jones, 2011).

The communicative power of graphical representations was also recognised in a UK Accounting Standards Board (2000) discussion paper entitled *Year-end Financial Reports: Improving Communication*, which advised that particular care should be taken in regard of their objectivity. In the context of the GRI guidelines, graphs are also unregulated and unaudited, which may also provide managers with opportunities to engage in impression management. This is the main focus of chapter 7 of the present study.

Table 16: Analysis of visual materials across companies and comparison by space in pages

Author Report type	Lee (1994) ARs (1988)	Davison and Skerratt (2007) Annual reports (2004)	Davison and Skeratt (2007) Annual reviews (2004)	Beattie et al.(2008) Annual report (2003-2004)	Duff (2014) CSR, Annual reviews and websites (2009)	Pesci and Costa (2014) CSR reports (2009)	Present study SASRs (2014)
Graphs page count							
Average total	Not known	1	1	Not known	Not known	Not known	2.5
Minimum	Not known	0	0	Not known	Not known	Not known	0.15
Maximum	Not known	5	7	Not known	Not known	Not known	12
Pictures page count							
Average total	10	10	4	6	3	Not known	8
Minimum	Not known	0.3	0	Not known	Not known	Not known	0.10
Maximum	Not known	30	18	Not known	Not known	Not known	33
Diagrams page count							
Average total	Not known	Not known	Not known	Not known	Not known	Not known	1
Minimum	Not known	Not known	Not known	Not known	Not known	Not known	0.10
Maximum	Not known	Not known	Not known	Not known	Not known	Not known	4
Charts page count							
Average total	Not known	Not known	Not known	Not known	Not known	Not known	0.50
Minimum	Not known	Not known	Not known	Not known	Not known	Not known	0.05
Maximum	Not known	Not known	Not known	Not known	Not known	Not known	3
Maps page count							
Average total	Not known	Not known	Not known	Not known	Not known	Not known	0.50
Minimum	Not known	Not known	Not known	Not known	Not known	Not known	0.10
Maximum	Not known	Not known	Not known	Not known	Not known	Not known	2.5
Total page counts	**Not known**	**11**	**5**	**6**	**Not known**	**Not known**	**12**

Additionally, the total amount of space devoted to diagrams was of 1 page by all companies, with wide variation ranging from a minimum of 0.10 pages to a maximum of 4. Similarly, an average of 0.5 pages were devoted to charts by all companies, with wide variation ranging from a minimum of 0.05 pages to a maximum of approximately 2.5. The total average amount of space devoted to maps was of 0.5 pages, with wide variation ranging from a minimum of 0.10 pages to a maximum of approximately 2.5.

It is worth commenting that pictures and narratives occupy far more space than graphs, diagrams, charts, and maps. These findings are consistent with those of Davison & Skerratt's (2007:1) study, which documented that **"*discretionary words and pictures occupy much greater space than graphs in annual reports, and arguably more powerful communication tools, yet their import has been neglected*"**. Beattie et al. (2008) also argued that, despite their universal use, their relative importance compared to textual material, and the non-financial contexts in which they are used, pictures have received limited attention. It should also be noted that, combined, visuals such as graphs, diagrams, charts, and maps occupy approximately a total average space of 4 pages per company. Although they occupy very little space, they are regarded to be effective communication instruments. They are trans-national and play crucial roles in memory, cognition, and impression management by distracting readers from any actual operations, while creating an impression of good corporate citizenship (Boiral, 2013).

5.2.4 Analysis of the use of mixed materials by all companies

As discussed, this study was also interested in establishing the proportions of mixed materials in standalone sustainability reports in the context of GRI A and A+ reports. Mixed materials are investigated in terms of narratives mixed with: (i) numbers; (ii) graphs; (iii) pictures; (iv) diagrams; (v) charts; and (vi) maps.

Table 17 shows the results on mixed materials. In terms of the overall rankings, narratives mixed with pictures were used the most, closely followed by numbers (on average, both scoring approximately 3.5 pages per company). Narratives mixed with charts were ranked third (on average, 0.5 pages per company), followed by narratives mixed with graphs and diagrams (approximately 0.10 pages per company).

Table 17: Mixed materials finding by means in all companies

Content types	Average total pages	Minimum	Maximum
Narratives and numbers	3.50	0.10	26
Narratives and graphs	0.10	0.10	7.50
Narratives and pictures	3.50	0.10	64
Narratives and diagrams	0.10	0.10	2
Narratives and charts	0.50	0.10	6.5
Narratives and maps	0.02	0	1

Again, it should be noted that narratives mixed with pictures occupied on average more space than other visual forms. This suggests that pictures/photographs mixed with narratives are deemed to be an effective vehicle for the portrayal of environmental, social, and economic performance. This is in line with this study's

theoretical framework and consistent with previous studies, which suggests the relationship between verbal and visual elements to be are exceptionally strong, with each verbal element containing a **"*visual parallel without which the verbal cannot be fully understood*"** (Jameson, 2000:8). The current study's theorectial framework suggests different possible interpretations; on the one hand, companies employ visual techniques within narrative sections to convey impressions of accuracy and honesty (Greenwood, Haylock & Uhlenbruch, 2008). This suggests that accuracy is effective when reports include a combination of visual and narrative information as they carry direct meaning and can be employed in responsibility-seeking communications. On the other hand, they may be employed to reinforce and support each other and may also be used for impression management purposes in order to maintain legitimacy within society.

5.2.5 Analysis of the use of blank space by all companies

Table 13 also illustrates the use of blank space by all companies in standalone sustainability reports. Blank space occupied 33% of the total space. The total average space per company was of approximately 32 pages per company with wide variation ranging from a minimum of 1.5 pages to a maximum of 87.5.

It is worth commenting that blank space approximately occupied as much space as narratives and far more space than pictures, graphs, diagrams, charts, and maps, with pictures occupying approximately 10 pages in Lee (1994) and Davison & Skerratt (2007) study and 8 pages in this study. Other visuals combined, such as graphs, diagrams, charts and maps, occupied a total average of 4 pages in this study. Yet, the presentational role of blank space has been under-researched.

The increased use of blank space may also be in agreement with the visual impression management theoretical framework. On the one hand, this may suggest that the use of blank space in standalone sustainability reports may be construed as a neutral representation that may improve communication and make documents user-friendly. This, in turn, may be useful for those stakeholders that spend less time actually reading the documents. Therefore, high inclusions of blank space and visuals may render documents attractive and, if they contain truthful and transparent information, it may assist users in getting a better overview of any sustainability issues, which may result in more effective decision making. On the other hand, blank space may be used as an impression management tool suited to maintain organisational legitimacy, whereby managers employ structural manipulations to represent their company's performance in the best possible light (Merkl-Davies, 2007).

Additionally, this study also investigated whether belonging to a high- or low-sensitive industry sector affects the length and make-up of standalone sustainability reports; this is the focus of the next section.

5.3 Overall length and make-up of standalone sustainability reports by sector

This study was also interested in answering the following question: "Does the length and make-up of standalone sustainability reports differ between high and low-sensitive industry sector companies". The counting method employed to measure the size of the data remained the same, and employed *units* and *space* (see section 4.3.1 in the methodology chapter). Table 18 and Appendices 3-10 show the overall results of the comparison between the high- and low-sensitive industry sector companies in terms of the length and make-up of their standalone sustainability reports. This

section firstly present the overall results, followed by a comparison in terms of numbers, narratives, visuals, mixed materials, and blank space.

As discussed in detail in Chapters Two and Four, the split between high and low sensitive sectors is a matter of opinion and time. They may change over time. For example, in 2008, the activities of banks and other financial service institutions were more than ever under scrutiny, not only by the local and international regulators, but also by a wider public including clients, employees and investors. Financial services industry is considered high sensitive because of its influence on financial well-being and its large 'social footprint'. As a result, stakeholder groups are deeply interested in its activities (Simnett et al., 2009)., which has resulted in companies reporting their CSR.

Kolk & and Perego (2010) argued that the financial services industry is highly exposed to environmental and social risks. However, the current study uses Jone's (2011) grouping of high versus low sensitive sectors. The low-sensitive industry sectors have significantly lower environmental impacts and are associated with fewer visible environmental issues. Conversely, given the high-sensitive industry sectors' nature and their implicit environmental and social impacts, it is anticipated that the companies from these sectors face greater environmental and social exposure and thereby much higher pressure to communicate and report on they deal with their stakeholders and with issues related with environmental and social impacts. Therefore, they are anticipated to display a higher degree of disclosure activism compared to low-sensitive industry sector companies.

5.3.1 Overview

Unexpectedly, the total amount of overall pages was observed to be lower in the high-sensitive industry sector companies than in the low sensitive industry sector ones. For example, the total average pages for the high-sensitive industry sector companies was of approximately 90 pages per company, compared to 101 pages per company in the low-sensitive industry sector ones, as shown in Table 18. However, as shown in Table 20, the financial service company in the low sensitive sectors has driven the result. This also appears to suggest that the financial service industry sector has also recognised the importance of voluntary information and thereby take full advantage of the non-regulated GRI-compliant standalone sustainability reports in communicating their environmental and social information. If financial service companies are excluded from the results, then it shows that the overall length of the standalone sustainability reports in the high sensitive industry sectors is higher than those in the low sensitive sectors (telecommunication, retailer and media) and thereby in line with the current study theoretical framework of visual impression management and legitimacy. Additionally, Kolk & and Perego (2010) argued that the financial services industry is highly exposed to environmental and social risks, and the need to increase user confidence in the credibility of their sustainability reports. However, the current study uses Jone's (2011) grouping of high versus low sensitive sectors.

Table 18: Overall structure of SASRs between high and low sensitive sectors

Sectors	Total pages	Percentage	Mean	Minimum	Maximum
High sensitive industry sectors					
Numbers	10	0.30	0.30	0	4
Narratives	1163	37	33	4.5	84
Visuals	447	14	13	1.5	38.5
Mixed materials	549	18	16	2	33.5
Blank space	992	31.5	28.5	1.5	78.5
Total	**3161**	**100**	**90.5**	**28**	**196**
Low sensitive industry sectors					
Number	3	0.10	0.10	0	1
Narratives	1393	40.5	41	5	150
Visuals	361	10.5	10.50	1.5	31
Mixed materials	501	14.5	15	3.5	32.5
Blank space	1189	34.5	35	10	87.5
Total	**3447**	**100**	**101.5**	**35**	**267**

***Key: Minimum and maximum pages are measured by space, with the minimum being the smallest proportions of space devoted and the maximum the largest space devoted to: (i) numbers; (ii) narratives; (iii) visuals; (iv) mixed materials; and (v) blank space.**

*** Key: Percentage is a number or ratio expressed as a fraction of 100 (calculation of visuals; 992/3161*100: 31.5) Mean is the average of all numbers (calculation of visual; 992/35: 28.5)**

Having established the overall length of the standalone sustainability reports published by the high- and low-sensitive industry sector sample companies, the second phase of the research sought to examine and compare their average length and make-up in terms of: (i) numbers; (ii) narratives; (iii) visuals; (iv) mixed materials; and (v) blank space. This section is divided into two. The first sub-section presents a summary of the data pertaining to the high sensitive industry sector companies, followed by the low-sensitive industry sector ones. The second sub-section compares and interprets the length and make-up of the standalone

sustainability reports by identifying the proportions of space devoted to: (i) numbers; (ii) narratives; (iii) visuals; (iv) mixed materials; and (v) blank space. The visuals are then further sub-divided into: (i) graphs; (ii) pictures; (iii) diagrams; (iv) charts; and (v) maps. Further, the mixed materials are also sub-divided into narratives mixed with (i) numbers; (ii) graphs; (iii) pictures; (iv) diagrams; (v) charts; and (vi) maps.

Table 19: Summary of the findings in the high-sensitive sectors

Sectors	No of companies	Numbers	Narratives	Visuals	Mixed	Blank space	Total length of documents in pages	Mean length of document in pages
Chemical	9	5	295	103	149	352	904	100.5
Energy	18	5	483	266	256	384	1394	77.5
Automotive	3	0	120	35	73	74	302	100.5
Mining	5	0	265	43	72	181	561	112.2
Total pages		**10**	**1163**	**447**	**550**	**991**	**3161**	**90**

Table 20: Summary of the findings in the low-sensitive sectors

Sectors	No of companies	Numbers	Narratives	Visuals	Mixed	Blank space	Total length of documents in pages	Mean length of document in pages
Financial services	21	2	771	190	338	681	1982	94.5
Telecommunications	8	1	357	105	85	276	824	165
Media	2	0	187	30.5	30	127	374.5	187.5
Retail	3	0	78	35.5	47	106	266.5	89
Total in pages		**3**	**1393**	**361**	**500**	**1190**	**3447**	**101**

5.3.2 Analysis of the use of numbers by average between high and low sensitive sectors

Table 21 and Appendices 3-10 show the findings between the high and low-sensitive industry sector companies. As expected, the total amount of space devoted to numbers by the high sensitive industry sector companies was greater than that of their low-sensitive industry sector counterparts. On average, the high-sensitive industry sector companies dedicated 0.30 pages to numbers overall. This result was mainly driven by the chemical and the energy sector companies, with the chemical sector devoting more space to numbers than the energy sector. Both the automotive and mining sectors did not use numbers in standalone sustainability reports.

On the other hand, the total proportions of space devoted to numbers by the low sensitive industry sector companies was, on average, approximately 0.10 pages overall. The retail and media sector companies did not use numbers in their standalone sustainability reports, as shown in Table 21.

Table 21: Average numbers results between high and low-sensitive industry sectors

	No of companies	Number of pages	Average number of pages	Minimum length	Maximum length
High sensitive industry sectors					
Chemical	9	5	5/9=0.50	0	4
Energy	18	5	5/18=0.30	0	3
Automotive	3	0	0/3=0	0	0
Mining	5	0	0/5=0	0	0
Total	**35**	**10**	**0.30**	**N/A**	**N/A**
Low sensitive industry sectors					
Financial services	21	2	2/21= 0.10	0	1
Telecommunications	7	1	1/7=0.15	0	0.30
Media	2	0	0/2= 0	0	0
Retail	3	0	0/3= 0	0	0
Total	**34**	**3**	**3/34= 0.10**	**N/A**	**N/A**

The findings on numbers concurred with this study's theoretical framework, which suggests that the high-sensitive industry sectors, due to their highly visible environmental impact and nature, are anticipated to disclose more financial information to meet the needs of shareholders, who may be interested in a financial overview of the companies. Numbers may be used to enhance users understanding. Or alternatively, they may be used as an impression management and image enhancement tool since those published in standalone sustainability reports reveal the expenditures incurred by a company in relation to environmental and social issues. Additionally, the financial performance of a company is covered in its annual reports, and high sensitive industry sector companies may publish numbers in their standalone sustainability reports as a rhetorical repetition device to provide memorability and emphasis (Davison, 2007). This also concurs with Hrasky's (2012) study, which found that sustainability-driven companies focus more on financial performance than non- sustainability-driven ones.

5.3.3 Analysis of the use of narratives between high and low sensitive sectors

Table 22 provides a breakdown of the proportions of pages devoted to narratives by the high and low sensitive industry sector companies. Unexpectedly, the total amount of narratives published by the high-sensitive industry sector companies was smaller than that of their low-sensitive counterparts. On average, the high sensitive industry sector companies dedicated 33 pages per company to narratives. The results of the high-sensitive industry sectors were driven by the mining sector.

The low sensitive industry sector companies, as discussed, devoted more space to narratives. On average, the total amount of narrative pages published by the low sensitive industry sector companies was of 41 pages per company. The results of the

low sensitive industry sectors were driven by the media, telecommunication, and financial services sectors.

Table 22: Narratives results by average between the high- and low-sensitive sectors

	No of companies	Number of pages	Average number of pages	Minimum length in pages	Maximum length in pages
High sensitive industry sectors					
Chemical	9	295	294/9=33	4.50	59
Energy	18	483	483/18=27	12.50	65
Automotive	3	120.5	120.4/3=40	15	84
Mining	5	265	264.7/5=53	15	123
Total	**35**	**1163**	**1162.85/35=33**	**N/A**	**N/A**
Low sensitive industry sectors					
Financial services	21	771	771/21=37	12.50	114
Telecommunications	7	357	356.71/7=51	5	105
Media	2	187	187/2=93	37	150
Retail	3	78.5	78.5/3=26	25	28.50
Total	**34**	**1393**	**1393/34= 41**	**N/A**	**N/A**

5.3.4 Analysis of the use of visual materials between high and low-sensitive sectors

A key interest of this research was to establish the relative proportions of visuals included in standalone sustainability reports published by high- and low-sensitive industry sector companies in the context of the GRI guidelines. As discussed, these are investigated in terms of: (i) graphs; (ii) pictures; (iii) diagrams; (iv) charts; and (v) maps. The expectation was that the high-sensitive industry sector companies would, in general, insert a higher proportion of visuals than the low-sensitive industry sector ones; this was confirmed by the findings. The total amount of space devoted to visuals by the high sensitive industry sector companies was approximately 7%, compared to 5.5% by the low sensitive industry sector ones, as shown in Table 23. The high-sensitive industry sector results were driven by the energy sector (4%), followed by the chemical one (1.5%). The low-sensitive industry sector results were driven by the financial service sector (3%), followed by the telecommunications one (1.5%). Unexpectedly, the space devoted to visuals by most of the low sensitive industry sector companies specifically those in the financial services and telecommunications sectors was found to be equivalent to that observed in the high-sensitive industry sector. In line with current study theoretical framework, a possible interpretation of the increased use of visuals by both sectors may be either to enhance users understanding in order to assist them in their decision-making. It may also assist users to get a feel for the content of the reports specifically in the context of environmental and social issues. On the other hand, they may be employed by companies as impression management instruments to maintain legitimacy within the society and achieve their own aims. Additionally, visuals may be used in support of corporate communication and therefore of the

companies' quest for legitimisation. Given that traditional accounting is inadequate in dealing with the recognition, measurement, and disclosure of intangible assets (Davison & Skerratt, 2007), discretionary visuals may be used to assist organisations in communicating them to their investors and society at large. Previous studies recognised the importance of non-financial and visual voluntary disclosures with regard to intangibles (Gelb, 2002; Nagar & Rajan, 2001) and suggested the prominence of their influence on readers (Hirshleifler & Teoh, 2003) as both laypersons and experts are known to look beyond the illustration of accounts (Baker, 2000; Bartlett & Chandler, 2001). This concurred with a previous study that found that visual disclosure strategies are used to focus reader attention on important aspects of operations (Hrasky, 2012). Visuals are powerful communication tools and carry a much richer variety of messages (Davison & Skerratt, 2007). Additionally, in general, the overall findings of this study concur with the legitimacy theory in that high-sensitive industry sectors possess generic environmental visibility and are closely associated with environmental and social issues; therefore, they may use more visuals in response to sector-specific stakeholder and legitimacy pressure. This is also consistent with Hrasky's (2012) study, which found that sustainability-driven companies use more visuals in an attention diverting role and in presenting a rhetorical image that distracts from actual operations, while creating an impression of good corporate citizenship.

Table 23: The use of visuals by average between high and low-sensitive sectors

	Visuals total pages	Average number of pages	Minimum length in pages	Maximum length in pages
High sensitive industry sector				
Chemical	103	103/9=11.5	1.50	30.5
Energy	266	266/18=15	4	38.5
Automotive	35	35/3=11.5	10	14.25
Mining	43	43/5=8.5	5	11.5
Total	**447**	**447/35= 13**	**N/A**	**N/A**
Low sensitive industry sectors				
Financial services	190	190/21=9	2.75	23
Telecommunication	105	105/8=13	4.75	31
Media	30.5	30.5/2=15.25	10.5	20
Retail	35.5	35.5/3=12	10	14
Total	**361**	**361/34= 10.5**	**N/A**	**N/A**

Graphs

Furthermore, Table 24 reveals the proportions of space devoted to graphs found between the high and low sensitive industry sectors. As expected, the high-sensitive industry sector companies devoted more space (on average, 2.50 pages) to graphs than the low-sensitive industry sector ones (2 pages). The result of the high-sensitive industry sectors was driven by the chemical and the energy sectors.

Table 24: The use of graphs by average between high and low-sensitive sectors

	Graph total pages based on space	**Average pages**	**Minimum length in pages**	**Maximum length in pages**
High sensitive industry sectors				
Chemical	19	19/9=2	0.25	12
Energy	47	47/18=2.50	0.30	8
Automotive	8.50	8.5/3=3	0.90	6
Mining	13.5	13.5/5=2.50	0.85	6.50
Total	**88**	**88/35= 2.50**	**N/A**	**N/A**
Low sensitive industry sectors				
Financial services	27	27/21=1.25	0	4
Telecommunication	27	27/8=3.50	0	10.50
Media	6	6/2=3	1.50	2.30
Retail	10	10/3=3.50	3	3.50
Total	**70**	**70/34= 2**	**N/A**	**N/A**

On the other hand, on average, the result of the low-sensitive industry sectors was driven by the telecommunications and media sectors. Unexpectedly, on average, the telecommunications companies devoted more space to graphs than the high sensitive industry sector ones. Similarly, the space devoted by the media companies to graphs was greater than that employed by the chemical and energy sector enterprises and almost equal to that included by the mining and the automotive sector ones. This

suggests that low-sensitive industry sector companies recognize the communicative benefits of graphs. Graphs may be used to provide incremental information and, if used appropriately, can improve the effectiveness of environmental and social information as **"*they rely on spatial, rather than linguistic, intelligence*"** (Beattie & Jones, 2000:216), thus playing a role in memory cognition. Beattie & Jones (2008) also argued that companies facing threats to their legitimacy have an incentive to use communication to address any environmental and social issues; in this context, the communicative effectiveness of the message could be enhanced through the use of graphs. On the other hand, the graphical representation of quantified data may be used infrequently because a symbolic or green-washing strategy is one that is broadly outlined and lacks representation of objective numerical outcomes (Bansal & Kistruck, 2006., cited in Hrasky, 2012). Overall, the result concurred with this study's theoretical framework in that a company's high reputation, status, and prominence makes it more widely known in society; therefore, it will devote more space to graphs to portray its environmental and social issues more effectively. This also concurred with the findings of Jones's (2011) study in that the use of and impression management through graphs were more prevalent in high sensitive industry sectors than in low-sensitive ones. Overall, Jones (2011) concluded that companies publish graphs to influence the perceptions of their stakeholders rather than as exercises in accountability (Cooper & Owen, 2007).

Pictures/Photographs

With regard to the relative use of pictures/photographs between the high and low sensitive sectors, it was anticipated that the former would devote considerable more space to them than the latter. Research has shown that the 'essay and pictorial' portions of annual reports have been found to be effective and less difficult to understand and that, although they are not found to be a **"*credible way to communicate to shareholders*", they are still recognised as providing "*a forum to communicate information to the shareholder in a language they understand*"** (Anderson & Epstein, 1996:56). Ultimately, pictures/photographs may be employed for impression management purposes. As expected, the high sensitive industry sector companies devoted more space to pictures than the low-sensitive sector ones. The total pages deployed by the high sensitive industry sector companies were, on average, approximately 8.5 pages per company. The results of the high sensitive industry sectors were driven by the energy and chemical sectors.

Table 25: Pictures/photographs result by average between high and low-sensitive sectors

	Pictures/photographs total number of pages	Average pages	Minimum length in pages	Maximum length in pages
High sensitive industry sectors				
Chemical	67	67/9=7.5	1	28
Energy	187	187/18=10.5	2.50	33
Automotive	21	21/3=7	2.50	13
Mining	21	21/5=4	2	8.50
Total	**296**	**296/35=8.5**	**N/A**	**N/A**
Low sensitive industry sectors				
Financial services	140	140/21=6.5	0.10	18
Telecommunications	60	60/8=7.5	1	18
Media	25	25/2=12.5	6.50	18.50
Retail	21.5	21.5/3=7	6.50	9
Total	**246**	**246/34=7**	**N/A**	**N/A**

On the other hand, the low sensitive industry sectors companies devoted, on average, 7 pages to pictures/photographs. The results were driven by the media sector, followed by the telecommunications one. Unexpectedly, the low sensitive industry sectors, particularly the media sector, devoted more space to pictures/photographs than the high-sensitive ones. The financial services sector companies were also keen users of pictures/photographs. This reveals that both sectors make good use of pictures/photographs in their standalone sustainability reports. The use of pictures/photographs plays an important role in attracting readers to a page, as it carries both conscious and unconscious messages (Davison, 2008).

Companies may use pictures/photographs in their standalone sustainability reports to communicate their intangible assets in their portrayal of individual values such as trust (Davison, 2007). Alternatively, pictures may be used symbolically as an impression management tool to create an image of caring and commitment citizenship, for example, happy employees, community images, unspoilt natural

landscapes, etc. when these do not have any substantial link to the actual operations (Hrasky, 2012). Managers have a duty to promote intangible assets, such as organisational reputation and legitimacy, and consequent shareholder values (Merkl-Davies, 2007). Overall, the high sensitive industry sector companies devoted more space to pictures/photographs than the low sensitive industry sector ones; being in the public spotlight. The latter are likely to be in the vanguard of environmental and social reporting and are under pressure to be accountable (Beattie et al., 2008); therefore, they will use more visuals to communicate their environmental and social issues to society.

Diagrams

With regard to the relative total space devoted to diagrams by the high- and low-sensitive industry sector companies, Table 26 shows that the former devoted more space to diagrams than the latter. On average, the total proportion of space devoted to diagrams by the high sensitive industry sector companies was of 1 page per company. The result was driven by the automotive sector.

On average, the low sensitive industry sector companies devoted a total space of 0.50 pages to diagrams. The result was driven by the telecommunications sector.

Table 26: Diagram result by average between high and low-sensitive sectors

	Diagrams total number of pages	Average pages	Minimum length in pages	Maximum length in pages
High sensitive industry sectors				
Chemical	4	4/9=0.50	0	2
Energy	16	16/18=1	0	3.5
Automotive	4	4/3=1.5	0.25	2.50
Mining	6	6/5=1	0	4
Total	**30**	**30/35= 1**	**N/A**	**N/A**
Low sensitive industry sectors				
Financial services	11	11/21=0.5	0	2.50
Telecommunications	7.5	7.5/8=1	0	2
Media	1	1/2=0.2	0	1
Retail	2	2/3=0.5	0.20	1
Total	**21.5**	**21.5/34= 0.5**	**N/A**	**N/A**

Charts

Table 27 reveals the findings in terms of charts between the high and low-sensitive industry sectors. On average, the former devoted 0.5 pages per company, compared to the 0.5 pages of the latter. All the high-sensitive industry sectors devoted some proportion of space to charts, as shown in Table 27. On average, the results were driven by the chemical sector. On the other hand, on average, the low-sensitive industry sector results of the low sensitive industry sectors were driven by the telecommunications sector.

Table 27: The chart results by average between high and low sensitive sectors

	Charts total number of pages	Average pages	Minimum length in pages	Maximum length in pages
High sensitive industry sectors				
Chemical	9	9/9=1	0	2.75
Energy	7	7/18=0.5	0	2
Automotive	2	2/3=0.5	0	1
Mining	1	1/5=0.2	0	0.50
Total	**19**	**19/35= 0.5**	**N/A**	**N/A**
Low sensitive industry sectors				
Financial services	8	8/21=0.5	0	1.50
Telecommunications	7	7/8=1	0	3.25
Media	1	1/2=0.5	0.25	1
Retail	1	1/3=0.25	0.10	1
Total	**17**	**17/34= 0.5**	**N/A**	**N/A**

Maps

Table 28 reveals the results on the proportions of space devoted to maps in standalone sustainability reports. As expected, the high sensitive industry sector companies devoted more space to maps in their standalone sustainability reports than the low sensitive industry sector ones. On average, the former devoted 0.5 pages per company. The results of the high sensitive industry sectors were driven by the energy and chemical sectors.

Table 28: The maps result by average between high and low-sensitive sectors

	Maps total pages	Average pages	Minimum length in pages	Maximum length in pages
High-sensitive industry sectors				
Chemical	4	4/9=0.5	0	1.50
Energy	8	8/18=0.5	0	2
Automotive	0	0/3=0	0	0
Mining	1.5	1.5/5=0.25	0	1
Total	**13.5**	**13.5/35=0.5**	**N/A**	**N/A**
Low-sensitive industry sectors				
Financial services	4	4/21=0.25	0	1
Telecommunications	3.5	3.5/8=0.5	0	2.50
Media	1	1/2=0.5	0	1
Retail	1	1/3=0.25	0	1
Total	**9.5**	**9.5/34=0.25**	**N/A**	**N/A**

On the other hand, the low-sensitive industry sector companies devoted a total space of 0.25 pages to maps. The results of the low sensitive industry sectors were driven by the telecommunications and media sectors.

In summary, both sectors devoted more space to pictures and graphs than to other visual forms such as charts, diagrams, and maps. This reveals that, in both sectors, pictures and graphs play important roles in the communication of environmental and social information. These visuals may play powerful and important role in improving communication. For example, the intangible dimension that stresses the importance attached to behaving responsibly as a company, with broader objectives beyond profits, cannot be expressed by the financial domains; therefore, visuals specifically pictures/photographs and graphs are meaningful and effective for this purpose and assist organisations in achieving their communicative aims, whether these involve highlighting or obfuscating information (Davison, 2015).

5.3.5 Analysis of the use of mixed materials between the high and low-sensitive sectors

As discussed, this study was also interested in identifying the relative proportions of space devoted to mixed materials by the high and low sensitive industry sectors. Again, these were measured by space. The expectations were that the high-sensitive industry sectors would devote higher proportions of space to mixed materials than the low-sensitive industry ones. Overall, as anticipated, the high sensitive industry sector companies devoted more space to mixed materials than the low sensitive industry sector ones. On average, the former devoted approximately 8% of space to mixed materials, compared to the 7.5% of the latter.

Narratives mixed with numbers

Table 29 presents the findings on narratives mixed with numbers. Unexpectedly, the high-sensitive industry sector companies devoted less space to this form, with an average of 6 pages, compared to the average 7 pages of the low-sensitive industry sector ones. On average, the results of the high sensitive industry sectors were driven by the chemical and the energy sectors.

Table 29: Findings on narratives mixed numbers between high and low-sensitive sectors

	Narratives mixed with numbers total number of pages	Average pages	Minimum length in pages	Maximum length in pages
High sensitive industry sectors				
Chemical	78.5	78.5/9=8.75	1.50	26.50
Energy	97	97/18=5.5	0.10	19
Automotive	10	10/3=3.25	1.50	6.5
Mining	24.5	24.5/5=5	1.25	10
Total	**210**	**210/35=6**	**N/A**	**N/A**
Low sensitive industry sectors				
Financial services	135.50	135.5/21=6.5	2.50	15.50
Telecommunications	50	50/8=6.25	0.50	13.50
Media	21.5	21.5/2=10.75	8	13.50
Retail	25.25	25.25/3=8.5	6.75	12
Total	**232**	**232/34= 7**	**N/A**	**N/A**

On the other hand, the results of the low sensitive industry sectors were driven by the media and retail sectors.

Narratives mixed with graphs

Additionally, as shown in Table 30, on average, the high sensitive industry sector companies devoted 1.50 pages to narratives mixed with graphs. The results of the high sensitive industry sectors were driven by the automotive and chemical sectors.

Table 30: Findings on narratives mixed with graphs between high and low-sensitive sectors

	Narratives mixed with graphs total number of pages	Average pages	Minimum length in pages	Maximum length in pages
High-sensitive industry sectors				
Chemical	20.25	20.25/9=2.25	0.85	7.25
Energy	18.50	18.50/18=1	0	2.25
Automotive	7.75	7.75/3=2.50	0	4.50
Mining	5	5/5=1	0.50	1.50
Total	**51.50**	**51.5/35= 1.50**	**N/A**	**N/A**
Low-sensitive industry sectors				
Financial services	7	7/21=0.25	0	1.25
Telecommunications	0.75	0.75/8=0.10	0	0.50
Media	0	0/2=0	0	0
Retail	1.75	1.75/3=0.50	0	0
Total	**9.5**	**9.5/34= 0.25**	**N/A**	**N/A**

On the other hand, the low-sensitive industry sectors' results were driven by the retail and financial services sectors. The media sector did not devote any space to narratives mixed with graphs.

Narratives mixed with pictures

Table 31 presents the results of narratives mixed with pictures. As expected, the high-sensitive industry sector companies devoted more space to narratives mixed with pictures (on average, 7.5 pages). The results of the high-sensitive industry sectors were mainly driven by the automotive sector.

Table 31: Findings on narratives mixed with pictures between high and low-sensitive sectors

	Narratives mixed with pictures total number of pages	**Average number of pages**	**Minimum length in pages**	**Maximum length in pages**
High-sensitive industry sectors				
Chemical	46.25	46.25/9=5	0	19.50
Energy	124.50	124.5/18=7	0	17.75
Automotive	53	53/3=17.50	13.50	21.50
Mining	37.5	37.5/5=7.50	2.50	14
Total	**261**	**261/35=7.50**	**N/A**	**N/A**
Low-sensitive industry sectors				
Financial services	176	176/21=8.50	0	64.25
Telecommunications	32	32/8=4	1.50	11.50
Media	8.50	8.50/2=4.25	3.50	5
Retail	17.50	17.50/3=6	1.15	10.50
Total	**234**	**234/35= 7**	**N/A**	**N/A**

On the other hand, the low-sensitive industry sectors results were driven by the financial services sector.

Narratives mixed with diagrams

Table 32 presents the findings on narratives mixed with diagrams for the high- and low-sensitive industry sectors. Unexpectedly, the former devoted less space to narratives mixed with diagrams compared to the latter. The high sensitive industry sectors devoted 3.5 pages to narratives mixed with diagrams compared to the 6 pages of the low sensitive industry sectors. The results of the high sensitive industry sectors were driven by the mining sector.

Table 32: Findings on narratives mixed with diagrams between all sectors

	Narratives mixed with diagrams total number of pages	**Average pages**	**Minimum length in pages**	**Maximum length in pages**
High-sensitive industry sectors				
Chemical	0.10	0.10/9=0.01	0	0.10
Energy	0.50	0.50/18=0.02	0	0.30
Automotive	0.50	0.50/3=0.15	0	0.50
Mining	2.25	2.25/5=0.50	0	1.85
Total	**3.5**	**3.5/35= 0.10**	**N/A**	**N/A**
Low-sensitive industry sectors				
Financial services	3.15	3.15/21=0.15	0	1.50
Telecommunications	1.25	1.25/8=0.15	0	1.25
Media	0.25	0.25/2=0.125	0	0.25
Retail	1	1/3=0.25	0	1
Total	**6**	**6/34= 0.25**	**N/A**	**N/A**

On the other hand, the low sensitive industry sector results were driven by the retail sector.

Narratives mixed with charts

Table 33 presents the findings on narratives mixed with charts between the high and low sensitive industry sectors. As expected, the former devoted more space to narratives mixed with charts in standalone sustainability reports. The total average space of the high sensitive industry sectors was 0.75 pages, compared to the 0.5 pages of the low sensitive industry sectors. The results of the high sensitive industry sectors were driven by the energy and chemical sectors.

Table 33: Findings on narratives mixed with charts between high and low-sensitive sectors

	Narratives mixed with charts total number of pages	**Average number of pages**	**Minimum length in pages**	**Maximum length in pages**
High-sensitive industry sectors				
Chemical	4.25	4.25/9=0.50	0	3
Energy	14.75	14.75/18=0.85	0	6.5
Automotive	1.25	1.25/3=0.50	0	1.25
Mining	2.50	2.50/5=0.50	0	2
Total	**23**	**23/35= 0.75**	**N/A**	**N/A**
Low-sensitive industry sectors				
Financial services	17.25	17.25/21=0.85	0	6.25
Telecommunications	1.50	1.50/8=0.25	0	1.25
Media	0.50	0.50/3= 0.25	0	0.50
Retail	1.15	1.15/3=0.50	0	1.15
Total	**20**	**20/34= 0.50**	**N/A**	**N/A**

On the other hand, the low-sensitive industry sectors' results were driven by the financial services and retail sectors.

Narratives mixed with maps

Table 34 presents the findings on narratives mixed with maps between the high and low-sensitive industry sectors. It should be noted that the total space devoted to narratives mixed with maps was less compared to that relating to narratives mixed with: (i) numbers; (ii) graphs; (iii) pictures; (iv) diagrams; and (v) charts. The high sensitive industry sector companies devoted more space to narratives mixed with maps (0.02 pages) than the low sensitive industry sector ones (0.01 pages). The chemical and automotive sectors did not devote any space to narratives mixed with maps. On the other hand, both the energy and mining sectors devoted a total space of 1 page.

Table 34: Findings on narratives mixed with maps between high and low sensitive sectors

	Narratives mixed with maps total number of pages	Average number of pages	Minimum length in pages	Maximum length in pages
High sensitive industry sectors				
Chemical	0	0/9=0	0	0
Energy	0.50	0.50/18=0.02	0	0.50
Automotive	0	0/3=0	0	0
Mining	0.50	0.50/5=0.10	0	0.50
Total	**1**	**1/35=0.02**	**N/A**	**N/A**
Low sensitive industry sectors				
Financial services	0.50	0.50/21=0.02	0	0.38
Telecommunications	0	0/8=0	0	0
Media	0	0/2=0	0	0
Retail	0	0/3=0	0	0
Total	**0.50**	**0.50/34=0.01**	**N/A**	**N/A**

As noted above, the low sensitive industry sector companies devoted less space to narratives mixed with maps. This was observed in most of the sectors such as telecommunications, media and retail, as none of these devoted any space to narratives mixed with maps. However, the energy companies devoted a total average space of approximately 0.50 pages (or, on average, 0.02 pages per company).

5.3.6 Analysis of the use of blank space between the high and low-sensitive sectors

Table 35 shows the results in terms of blank space between the high and low-sensitive industry sectors. Unexpectedly, the high sensitive industry sector companies employed less blank space than the low sensitive industry sector ones: on average, 28.5 pages per company compared to 35 pages. Within the high sensitive industry sectors, on average, the chemical and mining sectors employed more blank space, while the results of the low sensitive industry sectors were driven by the media and retail sectors. This support the overall impression management framework which suggests that blank space may be employed to attract users to the report and enabled them to get a feel for the content of the reports, which in turn may enable the users to attain a better knowledge of the environmental and social issues. Or alternatively, they may be employed for impression management purposes in order to maintain legitimacy within the society. However, the findings refute legitimacy theory which argues that due to the highly visible environmental impacts and increased scruntiny by the media, high sensitive sectors are expected to use more blank space than low sensitive sectors.

Table 35: Findings on blank space between high and low-sensitive sectors

	Blank space total number of pages	**Average number of pages**
Chemical	351.5	351.5/9=39
Energy	384	384/18=21.5
Automotive	74	74/3=24.6
Mining	181	181/5=36
Total	**990.5**	**990.5/35= 28.5**
Financial services	680	680/21=32.5
Telecommunications	275.5	275.5/8=34.5
Media	127	127/2=63.5
Retail	106	106/3=35.5
Total	**1188.5**	**1188.5/34= 35**

5.4 Summary

	Summary findings: the length and make-up of standalone sustainability reports in all companies
Overall length	On average, each company devoted 96 pages across sustainability issues, as shown in Table 13. The longest standalone sustainability report included 267 pages and the shortest 28. Standalone sustainability reports have therefore become substantial when compared to annual reports ones.
Numbers	On average, 0.20 pages were devoted to numbers in the overall document in all companies, as shown in Table 13-14. This may be due to the non-financial nature of the document.
Narratives	Narratives occupied 39% of the whole document in all companies, as shown in Table 13-15, which is in line with prior studies on annual reports (Lee, 1994; Davison & Skeratt, 2007; Beattie et al., 2008) and on standalone sustainability reports (Duff, 2016; Pesci & Costa, 2014). This increase in textual narratives in standalone sustainability reports is due to the comprehensive nature of the GRI A and A+ compliant reports, which include 55+ indicators, enabling the companies to disclose detailed information across sustainability issues.
Visuals	
Overall visuals	Visuals occupied 12% of the whole document, as shown in Table 13-15. The findings concurred with the studies conducted by Boiral (2013), Duff (2016), and Pesci & Costa (2014).
Pictures	The total overall space devoted to pictures in standalone sustainability reports was 8 pages, as shown in Table 16, compared to 4 in annual reports and 10 in annual reviews (Davison & Skerratt, 2007).
Graphs	Graphs in standalone sustainability reports occupied 2.5 pages. This is another important finding as shown in table 16.
Mixed materials	
Overall mixed materials	In terms of the overall rankings, narratives mixed with pictures were used the most, followed by numbers (on average, approximately 3.5 pages per company). Narratives mixed with charts ranked second (on average, 0.5 pages per company), followed by narratives mixed graphs and diagrams (approximately 0.10 pages per company). Again, it should be noted that, on average, narratives mixed with pictures occupied more space than other visual forms.
Blank space	Blank space occupied 33% of the whole document. They occupied as much space as narratives and far more space than pictures, graphs, diagrams, charts, and maps, as shown in Table 13.

High versus low sensitive industry sectors length and make-up of standalone sustainability reports	
Overall length	Unexpectedly, the average length of the standalone sustainability reports published by the high sensitive industry sector companies was 90 pages, compared to 101 pages by the low sensitive industry sector ones, as shown in Table 18. High sensitive industry sectors (chemical and energy) and low sensitive industry sectors (financial service and telecommunication) have driven the results.
Numbers	The high sensitive industry sector companies devoted 0.30 pages to numbers, compared to 0.10 pages in the low sensitive industry ones, as shown in Table 21. High sensitive industry sectors (chemical and energy) and low sensitive industry sectors (financial service and telecommunication) have devoted more space to numbers.
Narratives	The high sensitive industry sector companies devoted 33 pages to narratives, compared to 41 pages in the low sensitive industry ones, as shown in Table 22. High sensitive industry sectors (mining and automotive) and low sensitive industry sectors (telecommunication and media) have devoted more space to narratives.
Visuals	
Overall visuals	The high sensitive industry sector companies devoted 7 pages to visuals, compared to 5.5 by the low sensitive industry ones, as shown in Table 23. Chemical and energy companies in the high sensitive industry sectors and financial services and telecommunications companies in the low sensitive industry sectors devoted more space to visuals.
Graphs	The high sensitive industry sector companies devoted more space to graphs compared to low sensitive industry ones: 2.5 pages compared to 2, as shown in Table 24. High sensitive industry sectors (chemical and energy) and low sensitive industry sectors (financial service and telecommunication) have devoted more space to graphs.
Pictures/Photographs	The high sensitive industry sector companies devoted 8.5 pages to pictures/photographs, compared to 7 by the low sensitive industry ones, as shown in Table 25. High sensitive industry sectors (energy and chemical) and low sensitive industry sectors (telecommunication and financial service) have devoted more space to pictures/photographs.
Mixed materials	The high sensitive industry companies published 8% of mixed materials in their whole document compared to 7.5% by the low sensitive industry ones. High sensitive industry sector companies devoted more space to numbers, graphs, pictures, charts, and maps and less space to diagrams compared to their low sensitive industry sector counterparts.
Blank space	Unexpectedly, the high sensitive industry sectors have devoted less space to blank space than low sensitive industry sectors: 28.5 pages per company compared to 35 pages in the low sensitive industry sectors as shown in Table 35. The results were driven by the chemical, mining, media and the financial service sectors.

This chapter presented the length and make-up of GRI-compliant standalone sustainability reports. It makes an important contribution by extending the research conducted by Lee (1994), Davison & Skerratt (2007), and Beattie et al. (2008) on annual reports, and by adding to the work done by Duff (2016) and Pesci & Costa (2014) on standalone sustainability reports. This study extends the work on sustainability reports as follows: (i) it investigates the length and make-up of GRI-compliant standalone sustainability reports; (ii) it focusses on various countries worldwide, on diverse industry sectors (high versus low-sensitive), and on up to date 2014 standalone sustainability reports. Conversely, previous studies were based on the non-GRI compliant standalone sustainability reports published by UK accounting companies for the year 2008 (Duff, 2016) and by Italian banks for the year 2009 (Pesci & Costa, 2014); (iii) the length and make-up of standalone sustainability report is broken down into numbers, narratives, visuals, blank space, and mixed materials. Previous studies investigated pictures, graphs, and tables and neglected mixed materials and blank space; (iv) visuals are sub-categorised into pictures, graphs, diagrams, maps, and charts. This is time consuming manual analysis (v) also contributes methodologically to the measurement of disclosure in content analysis by focussing on numbers, narratives, visuals, mixed materials, and blank space.

The key findings are: (i) standalone sustainability reports have become lengthy documents that incorporate substantial proportions of visual materials; (ii) overall, visual and mixed materials occupy 30% of sustainability reports, which is a high percentage, as shown in Table 13, in line with recent annual reports (Lee, 1994; Davison & Skeratt, 2007; Beattie et al., 2008) and standalone sustainability reports (Duff, 2016; Pesci & Costa, 2014); (iii) pictures and photographs represent the largest proportions of visual materials in standalone sustainability reports compared

to annual reports, as shown in Table 16; (iv) graphs occupy a smaller proportion than pictures and photographs, but still occupy twice as much space as they do in annual reports (Davison & Skerratt, 2007), as shown in Table 16; (v) overall, high sensitive industry sector companies use more visuals specifically, graphs and pictures/photographs than low sensitive industry sector ones, as shown in Table 18; (vi) High sensitive sectors (energy and chemical) and low sensitive sectors (financial service and telecommunication) have devoted more space to visuals.

In conclusion, the results indicate that high-sensitive sector companies and some low-sensitive sector ones (financial services and telecommunications) consider visuals specifically, pictures and graphs meaningful and effective in portraying environmental and social issues, either to provide enlightening information in order to assist users understanding and enhance the clarity of information presented in visuals. The visuals may direct attention to specific neutral information that, in turn, may be linked to key factors in an investor's decision making. However, they may also be used for impression management purposes in order to maintain legitimacy within the society which is the focus of chapter 7.

Chapter Six: Graph usage

The analysis of the overall make-up of standalone sustainability reports presented in the previous chapter found that visuals represent an important percentage of it, and that, within visuals, graphs are an important component. This chapter surveys graph usage (Appendices 11-42) to achieve four subsidiary research objectives:

- to document the types of graph used;
- to analyse the topics graphed (between environmental, social, and economic issues);
- to document the time-series used;
- to document the use of colour in graphs.

As in the previous chapter, the analysis is presented as follows:

- Firstly, for all companies, and;
- secondly, analysed between high and low sensitive industry sectors.

6.1 Introduction

The voluntary disclosure of environmental and social information is an important aspect of the way in which companies communicate to their stakeholders. Graphs represent an important corporate reporting format and can be used by companies to synthesise and display information to readers in an easily digestible way. Graphs, used properly, have many features which enhance communicative effectiveness, such as attracting attention, relying on spatial rather than linguistic intelligence, and presenting data in a more efficient and effective manner (Mather, Ramsay & Steen, 2000). Graphs are useful and powerful tools that affect reader impression and decision making. Graphs are also a form of rhetoric designed to convince users that managerial assertions are truthful (Graves, Flesher & Jordan, 1996), and are remembered more easily than tabulated or described data (Beattie & Jones, 1992).

There is overwhelming evidence of the widespread use of graphs in annual reports (Beattie & Jones, 1992;1994; 2008) and in standalone sustainability reports (Jones, 2011; Hrasky, 2012; Cho et al., 2012a, 2012b). These studies revealed that graphs are used as impression management tools whereby managers are incentivised to embellish their financial performance in annual reports (Arunachalam, Pei & Steinbart, 2002; Beattie & Jones, 1992; 1998; 2000b; 2002; Steinbart, 1989) or their environmental and social performance in standalone sustainability reports (Jones, 2011; Hrasky, 2012; Cho et al., 2012a, 2012b). However, no previous studies investigated the use of graphs in GRI A and A+ compliant standalone sustainability reports. Given that the use of graphs in the context of the GRI guidelines is unregulated and unaudited and represents an integral part of a company's overall disclosure strategy, this study aims to contribute to our knowledge and understanding of the corporate disclosure practices adopted in GRI standalone

sustainability reports. It contributes to the small existing literature on the use of graphs in sustainability reports by updating the existing work, by grounding it in impression management theory, by adding the context of the GRI guidelines and the dimension of sector sensitivity, by deploying an under-used measure of graph distortions, and by considering the use of colour in graphs.

6.2 Overall graph usage

Table 36 presents the results pertaining to the overall usage of graphs. As the results show, 66 companies (96%), the vast majority of the sample, employed graphs in their standalone sustainability reports, while three (3.5%) did not. This popularity in graph usage mirrors that found in corporate annual reports; Beattie et al. (2008) reported that in the 1990s, 80% to 90% of companies employed graphs in their annual reports. There has been an increasing trend in the overall use of graphs in standalone sustainability reports. Jones (2011) reported that 54 (86%), of the sample companies studied employed graphs. Cho et al. (2012b) revealed that 88% of the study's sample companies employed graphs in their standalone sustainability reports.

Similarly, there has been an increase in the average number of graphs per report: 25 compared to 13 (Jones, 2011) and 12.5 (Cho et al. 2012b). This increasing trend may be tailored to provide incremental information as graphs are regarded as effective communication tools and a particular form of visual communications that may be employed to support corporate communication and therefore any quest for legitimation. As discussed in detail in Chapter two, the appropriate use of graphs can provide communicative benefits. For example, they attract and direct reader attention and can reveal and clarify trends that may not become apparent from merely

scanning numerical data (Beattie & Jones, 2008; Steinbart, 1989), or they may be employed as impression management tools.

Table 36: Findings on overall graphs use by all companies and prior studies in SASRs

	Sample population/Year	Sample size	Companies that use graphs		Companies that do not use graphs		Average graph per standalone sustainability reports that use graphs	Total graphs
			Number	Percentage	Number	Percentage		
Jones (2011)	Top 100 UK companies/2005	63	54	86	9	14.5	13	693
Hrasky (2012)	200 largest Australian companies/2007	200	Not known	Not known	Not known	Not known	Not known	517
Cho et al. (2012a)	Top USA companies/2006	77	Not known	Not known	Not known	Not known	Not known	1634
Cho et al. (2012b)	20 largest publicly traded companies from six different countries/ 2006	120	68	88.5	9	12	12.50	857
Present study	GRI A and A+ reports/2014	69	66	96	3	4.5	25	1657

6.2.1 Analysis of the types of graph

Table 37 and Appendices 11-26 show the results pertaining to the use of graph types by all companies in standalone sustainability reports. The most popular graph type was vertical column (36%) followed by horizontal bar (22.5%), which are well suited to present time trends. The following most commonly used two graph types were circle (15%) and pie (11%), which are useful in showing the components of a particular item. The two graph types least commonly used were pictorial (10%) and line (5.5%). The formers are useful in visualising the presentation of specific data, while the latter are useful to portray time-series of graphs.

This study's findings are in line with those of Jones (2011), who reported that 49% of companies employed column graphs. Jones (2011) also revealed a 23.25% use of pie and 7% use of line graphs by companies in standalone sustainability reports. Hrasky (2012) also revealed that column graphs were the graph types most commonly employed in standalone sustainability reports. This also reflects the patterns found in annual reports, for example, Steinbart (1989) reported that bar graphs were the most commonly used in annual reports (78%). Beattie & Jones (2002) argued that bar and column graphs are effective in portraying information simply and for unsophisticated readers; in particular, they may allow an easier understanding than traditional financial statements. These benefits may motivate companies to employ more column and bar graphs in standalone sustainability reports.

The column and bar graphs also provide companies the opportunity to engage in impression management which has been evident in annuals reports (Arunachalam, Pei & Steinbart, 2002; Beattie & Jones, 1992; 1998; 2000b; 2002; Steinbart, 1989)

or their environmental and social performance in standalone sustainability reports (Jones, 2011; Hrasky, 2012; Cho et al., 2012a, 2012b).

Table 37: Findings on graph types by all companies

	Column	Bar	Circle	Pie	Pictorial	Line	Total
Total	**596**	**373**	**244**	**187**	**168**	**89**	**1657**
Percentage	36	22.5	15	11	10	5.50	100
Average per SER (n=69)	8.50	5.50	3.50	2.50	2.50	1.25	24

6.2.2 Analysis of the time-series of graphs

Jones (2011) reported that only 45 (6.5%) graphs portrayed data spanning periods of over five years. The vast majority (648 or 93.5%) covered periods of up to five years. The most popular were one-year graphs (212, 30.50%). This was followed by a dip the number of graphs covering two to four years, and by a partial recovery for graphs depicting series of five years (138, 20%). However, neither Hrasky (2012) nor Cho et al. (2012a; 2012b) investigated the time-series of graphs. This provides room for further research on standalone sustainability reports.

Table 38 presents the findings on the time-series covered by graphs. The results show that the most common graphed time series covered less than five years (83%) followed by five-year series graphs (approximately 12%). The least commonly used graphs addressed time series greater than five years (approximately 5%). There is therefore no benchmark norm as there is for financial graphs, in which the majority of the companies graphed periods of five years (Beattie & Jones, 1992). This may be

due to the relative newness of standalone sustainability reports as a reporting medium, which may have led to a lack of comparative data and settled practices. Alternatively, in line with this study's theoretical framework, companies may not wish to disclose longer data trends as they may potentially portray them in a bad light.

Table 38: Time-series of graphs by all companies with prior studies

	< 5 years		5 years		> 5 years		Total
	No	**%**	**No**	**%**	**No**	**%**	
Jones (2011)	510	73.50	138	20	45	6.5	693
Hrasky (2012)	Not known	Not known	Not known	Not known	Not known	Not known	517
Cho et al. (2012a)	Not known	Not known	Not known	Not known	Not known	Not known	857
Cho et al. (2012b)	Not known	Not known	Not known	Not known	Not known	Not known	1634
Present study	1379	83	198	12	80	5	1657

6.2.3 Analysis of the sustainability domains graphed

Table 39 and Appendices 27-34 show the findings in terms of the categories of graphed topics. All previous studies showed that companies devote significant proportions of graphs to environmental activities, followed by social activities. These findings concur with those of this study, which also found that the total proportion of graphs devoted to environmental activities was 44%, followed by social (37%) and economic (19%) ones. As anticipated, the proportions of economic graphs found in standalone sustainability reports by all studies including this one were the smallest.

Table 39: Distribution of graphs by sustainability topics by this and prior studies

	Environmental		Social		Economic		Total
	No	**%**	**No**	**%**	**No**	**%**	
Jones (2011)	372	57	165	25	156	17.5	693
Hrasky (2012)	195	38	254	49	68	13	517
Cho et al. (2012a)	423	49.5	342	40	92	11	857
Cho et al. (2012b)	766	47	586	36	282	17	1634
Present study	674	44	574	37	290	19	1538

Hence, given the unregulated nature of CSR, the wide range of different topics graphed provides a very good indication of those considered important by managers.

Table 40 shows that 58 of the companies included at least one environmental graph in their reports, 60 published at least one social graph, 33 devoted at least one graph to economic data, and 27 allocated at least one graph to other topics. Within the other topics domain, there were graphs specifically on GRI disclosure policies and also others that did not fall under the definitions of the environmental, social, and economic dimensions in the context of the GRI guidelines.

Table 40: Detailed distribution of graph by categories in the present study

Category of graph	**Reports containing a graph**	**Total no of graphs**	**Total %**	**Average per SER (n= 69)**
Environmental	58	674	41	10
Social	60	574	34.5	8
Economic	33	290	17.5	4
Others	27	119	7	1.5
Total number of companies that included at least one graph	**66**	**1657**	**96**	

6.2.4 Detailed analysis of the topics graphed by all companies

Jones (2011) reported that the top three environmental topics (emissions, waste output, and energy consumption) accounted for almost 31% of all graphs. The top two social topics (employee data and lost time and illness) accounted for 13% of all graphs.

Cho et al. (2012a) reported that 38 companies had included at least one graph dealing with emissions. Within the social domain, 31 companies had included at least one graph dedicated to employee health and safety issues (e.g., accidents, time-loss, fatalities, etc.). Sale/revenue items were also commonly graphed by companies in standalone sustainability reports.

This study also shows that the top four environmental topics (emissions, energy, water consumption, and hazardous waste) accounted for approximately 32% of all graphs. Similarly, the top three social topics (employees, social investment, and health and safety) accounted for approximately 33% of all graphs. This reflects the business community's current concerns about sustainability and climate change, and about issues related to employee health and safety. No graphs were found to be related to environmental fines in Jones (2011), in Cho et al. (2012a), and in this study, which goes against the principles of balance and completeness laid out by the GRI guidelines. This is in line with this study's theoretical framework, which suggests that, in order to maintain their legitimacy within society, companies engage in impression management to portray better environmental and social performance than warranted. This also supports Goffman's (1959:4) contention that **"*in interaction with others, a person uses communication to manage other people's impressions of himself or herself*".**

Table 41: Environmental topics graphed by companies

Topics graphed by most companies	Number of graphs	Number of companies
Environmental		
Emissions (GHG, CO2, NOX, SO2 etc.)	230	46
Hazardous waste	63	24
Energy (consumptions, savings and efficiency)	131	33
Gas (use and reduction)	8	5
Water	94	27
Environmental (investments, expenditures, incidence, sustainable activities and innovation)	37	15
Carbon (intensity and productivity)	18	7
Recycling	40	12
Materials used	29	10
Noise reductions	8	4
Spills	16	6
Total environmental graph	**674**	

Table 42: Social topics graphed by companies

Social		
Safety and health (injury, incident, illness)	83	25
Employee (diversity, geographic, turnover, work/life, ethics)	364	49
Supplier data and customer satisfactions	30	9
Social investment (education, social activities and donations)	97	21
Total social graph	**574**	
Economic		
Sales revenue (geographic and segment)	124	20
EBITDA (geographic and segment)	7	2
Cash flows	4	3
Shareholders (dividends, structures and value creation etc.)	54	19
Income (divisions, geographic and segment)	34	11
Expenditures	23	5
Growth and economic performance	15	10
Ratios (debt ratios, return on equity, total asset and return on assets)	24	8
Investments	5	4
Total economic graph	**290**	
Others	**119**	27
Total	**1657**	

6.2.5 Analysis of graph colour usage by all companies

Colour is an important component of any visual medium (Courtis, 2004) and plays an important role in both cognition and memory (Borges et al., 1977, cited in Wichmann et al., 2002). Colour encourages readers to devote time to specific information, is more appealing to the eye, and attracts more attention (Courtis, 2004). Caudill (1986., cited in Courtis, 2004) reported that colour influences favourable judgements and that colour-graphics improve decision-making (So & Smith, 2002). On the other hand, the use of colours in graphs may be employed for impression management purposes; it may be used to highlight important information and to either direct or divert the users' analytical attention to or from information to highlight or minimise any aspects of performance, and may be employed as visual rhetoric for impression management purposes (Courtis, 2004). This study is the first to examine the usage of colour in the graphs included in standalone sustainability reports.

Table 43 and Appendices 35-42 present the usage of colour in graphs by all companies in standalone sustainability reports. Green was employed significantly by the companies (407 or 24.5%), followed by blue (280 or approximately 17%) and orange (276 or approximately 16.5%). The least common colours were purple (55 or approximately 3%), followed by grey (74 or 4.5%), red (76 or approximately 4.5%), and others (93 or 5.5% altogether). As a result, all graphs included in standalone sustainability reports were colourful.

As anticipated, companies employed more green colours in their standalone sustainability reports, which may be tailored towards the notion of being 'greener'. This may suggest that a company cares about environmental issues and, in turn, may

create an image of a sustainable organisation. Previous studies also found that blue and green are well-liked across countries, share similar meanings and are very frequently used (Courtis, 2004; Madden et al., 2000). For example, blue is highly evaluated as representing dependability, trustworthiness, and high quality. Blue on a white background is also associated with a higher order of legibility, is more appealing to the eye, attracts more attention and processing (So & Smith, 2002), and improves decision-making (So & Smith, 2002). Green is associated with feelings of safety, with good environmental practices, and with the highest investment allocations (Courtis, 2004). Orange denotes cheapness (Adams & Osgood, 1973), and may be used to portray an image of cost consciousness and restraint in standalone sustainability reports.

In line with this study's theoretical framework, in good times, managers will use more colours specifically, green and blue as an aspect of impression management to convey an enhanced favourable impression of their success. Conversely, when there is negative news, managers will seek to lower their use of green and blue, and specifically use orange to portray an image of cost consciousness and restraint; as an alternative explanation, they will employ more colours to mask the negative news and direct attention to other matters. In each of these scenarios, the deliberate use of colours is tied to image and impression management (Courtis, 2004).

Table 43: Graph colour usage by all companies

	Green	Mixed	Blue	Orange	Other	Red	Grey	Purple	Total
Total	**407**	**396**	**280**	**276**	**93**	**76**	**74**	**55**	**1657**
Percentage	24.5	24	17	16.5	5.5	4.5	4.5	3.5	100
Average per SER (n=69)	6	5.5	4	4	1.5	1	1	0.75	

6.3 Analysis of the graph usage between high and low-sensitive sectors

An analysis of graphs across industry sectors (see Table 44 and appendix 11-26) shows marked variations. Those sectors with, arguably, greater potential environmental impacts and visibility were anticipated to be most likely to use graphs. In fact, the former did use more graphs (58%) than the latter (42%). For example, the energy sector led the way with 24.5% of the overall graphs, followed by the chemical one (18.5%). The results of the low-sensitive industry sectors were driven by financial services (25% of the overall graphs) and telecommunications (9.5%). Overall and on average, the high-sensitive industry sector companies produced approximately 27 graphs each, compared to the 21 of their low-sensitive industry sector counterparts. This shows that the former were keener to present their environmental and social activities in graphic form. This study's results are also line in with those presented by Jones (2011) and with the theoretical framework, which stipulates that high sensitive industry sectors will disclose more discretionary information to secure their legitimacy in view of their higher visibility and stakeholder pressure, (Branco & Rodrigues, 2006), and predisposition to receive more public scrutiny (Milne & Patten, 2002).

Table 44: Analysis of graph use between high and low-sensitive sectors

	No of companies	**Total graphs**	**Total average**	**Total percentage**
Chemical	9	306	34	18.5
Energy	18	404	22.5	24.5
Automotive	3	129	43	8
Mining	5	117	23.5	7
Total	35	956	27.5	58
Financial service	21	414	19.5	25
Telecommunication	8	159	20	9.5
Media	2	29	14.5	1.5
Retail	3	99	33	6
Total	**34**	**701**	**20.5**	**42**
Total high and low-sensitive sectors	**69**	**1657**	**24**	**100**

6.3.1 Analysis of the types of graph between high and low sensitive sectors

Table 45 and appendices 11-26 present the results with regard to the types of graph by average. The high-sensitive sector companies used more graph types than the low-sensitive sector ones. The former used more column (approximately 21%) and bar graphs (13%), and less circle, pie, pictorial, and line graphs (20.5% altogether). The automotive sector led the way with 21 column graphs per company, next came energy and mining with 9. The chemical sector used the least column graphs per company (7.5). The automotive, chemical and mining companies led the way in bar graphs with 9 per company, while the energy companies only used approximately 2.

Low-sensitive sector companies also used more column graphs (15%), followed by bar (10%) and then circle, pie, and line graphs (16% altogether). The telecommunications companies led the way in column graphs with approximately 11 per company, next came media with 10.5. The least column graphs were employed by retail, followed by financial services with approximately 7 and 5 per company respectively.

The retail sector led the way in bar graphs with approximately 12 by company; next came financial services with approximately 6, while the telecommunications companies used approximately 0.5 bar graphs per company.

On average, the high-sensitive sector companies published approximately 10 columns and 6 bar graphs per company, whereas their low-sensitive sector counterparts published approximately 7 and 5 respectively. This shows that both sectors published more time related graphs than non-time related ones. However, the high sensitive industry sector companies published more time-related graphs than their low sensitive industry sector counterparts. This may have been due to the

highly visible nature of the former, which may have provided them with the opportunity to engage in impression management through graphs. For example, longer data trends may be used to portray corporate performance in a positive light.

Table 45: Analysis of graph use by types between all sectors by average and percentage

Sector	Column			Bar			Circle			Pie			Pictorial			Line		
	No	**Average**	**%**	**No**	**Average**	**%**	**No**	**Average**	**%**	**No**	**Average**	**%**	**No**	**Average**	**%**	**No**	**Average**	**%**
High sensitive industry sector																		
Chemical	67	7.5	4	82	9	5	72	8	4.5	30	3.5	2	41	4.5	2.5	14	1.5	1
Energy	169	9.5	10	34	2	2	44	2.5	2.5	64	3.5	3.5	50	3	3	43	2.5	2.5
Automotive	62	20.5	4	51	9.5	3	9	3	0.5	0	0	0	3	1	0.25	4	1.5	0.25
Mining	45	9	2.75	47	9.5	3	12	2.5	0.75	7	1.5	0.5	6	1	0.5	0	0	0
Total	**343**	**10**	**20.5**	**214**	**6**	**13**	**137**	**4**	**8**	**101**	**3**	**6**	**100**	**3**	**6**	**61**	**1.75**	**3.5**
Low sensitive industry sector																		
Financial services	120	6	7.25	121	6	7.5	83	4	5	34	1.5	5	35	1.5	2	21	1	1.25
Telecommunication	90	11	5.5	3	0.5	0.25	11	1.5	0.5	38	5	0.5	17	2	1	0	0	0
Media	21	10.5	1.5	0	0	0	0	0	0	3	1.5	0	0	0	0	5	2.5	0.5
Retail	22	7.5	1.5	35	11.5	2	13	4.5	1	11	3.5	1	16	5.5	1	2	0.75	0.10
Total	**253**	**7.5**	**15**	**159**	**5**	**9.5**	**107**	**3**	**6.5**	**86**	**2.5**	**5**	**68**	**2**	**4**	**28**	**0.75**	**1.5**
Total high and low sensitive industry sectors	**596**	**8.5**	**36**	**373**	**5.5**	**22.5**	**244**	**3.5**	**14.75**	**187**	**2.75**	**11.25**	**168**	**2.5**	**10**	**89**	**1.25**	**5.5**

6.3.2 Analysis of the time-series graphs between high and low-sensitive sectors

This section discusses the findings pertaining to the time-series graphs between high- and low-sensitive industry sectors, as shown in Table 46 and Appendices 11-26. The results show that both industry sectors employed short time-series in their graphs. However, the high-sensitive industry sector companies published more graphs covering time series shorter than five years (43.5%) than the low-sensitive industry sector ones (40%).The high sensitive industry sectors were not very keen to publish longer time-series graphs.

Five-year graphs published by high-sensitive industry sector companies accounted for approximately 11%, compared to 1.25% by the low sensitive industry sector ones. Similarly, the former produced 3.5% of the graphs covering periods longer than five years, compared to 1.25% by the latter. On average, the high-sensitive industry sector produced approximately 21 shorter than five-year, 5 five-year, and 1.75 longer than five-year time series graphs per company. In contrast, the low sensitive industry sector produced approximately 19 shorter than five-year, 0.75 five-year, and 0.5 longer than five-year time series graphs per company. Unexpectedly, the retail companies published almost the same proportions of graphs covering periods of less than five years as the chemical companies. Similarly, the financial services and telecommunications companies published almost the same proportions of graphs covering time series of less than five years as the energy and mining companies.

Overall, the graphs covering time series of five years and longer published by the high-sensitive sector companies may suggest that, due to their visibility, they wish to disclose longer time-series graphs to provide incremental and comparative

information in order to assist users. Alternatively, they may have felt that longer data trends may potentially portray them in a positive light, specifically when their performance in terms of sustainability issues had been favourable. This applies to graphs portraying both good and bad news. Longer time-series applied to graphs depicting declining bad news trends or increasing good news ones will portray corporate performance in a favourable light. Thereby, companies benefit from using longer time-series in their graphs. Hence, the results suggest that, in less restrictive regulatory environments, companies appear to be more likely to engage in impression management in their use of graphs.

Table 46: Time-series of graphs between high and low sensitive sectors by mean

Sector	No of companies	< 5 years			5 years			>5 years			Total graphs
		No	Average	%	No	Average	%	No	Average	%	
High sensitive industry sector											
Chemical	9	259	29	15.5	35	4	2	12	1.25	0.75	306
Energy	18	302	17	18.25	63	3.5	3.75	39	2.25	2.25	404
Automotive	3	72	24	4.25	49	16.25	3	8	2.75	0.50	129
Mining	5	87	17.5	5.25	29	6	1.75	1	0.25	0.05	117
Total high sensitive sectors	**35**	**720**	**20.5**	**43.5**	**176**	**5**	**10.5**	**60**	**1.75**	**3.50**	**956**
Low sensitive industry sector											
Financial services	21	407	19.5	24.5	4	0.25	0.25	3	0.25	0.25	414
Telecommunication	8	127	16	7.75	18	2.25	1	14	1.75	0.75	159
Media	2	29	14.5	1.75	0	0	0	0	0	0	29
Retail	3	96	32	5.75	0	0	0	3	1	0.25	99
Total low sensitive sectors	**34**	**659**	**19.5**	**39.75**	**22**	**0.75**	**1.25**	**20**	**0.5**	**1.25**	**701**

6.3.3 Analysis of the sustainability domains graphed between high and low sensitive sectors

Table 47 and Appendices 27-34 show that the high sensitive industry sector companies used more environmental (26%), social (19.5%), and economic graphs (12%) than their low sensitive industry sector counterparts. The former also published approximately 0.5% of graphs pertaining to other domains.

The use of environmental graphs in the high sensitive industry sectors was led by automotive (approximately 20 graphs per company), followed by energy (12) and chemical (11.5). The least environmental graphs were published by mining (approximately 8.5 graphs per company). With regards to social graphs, the automotive sector led the way (approximately 14 graphs per company), followed by mining (10). The least social graphs were employed by the chemical and energy sectors (approximately 8.5 social graphs per company each). Within the economic domain, the chemical companies led the way (approximately 14 graphs per company), followed by the automotive companies (6). The least economic graphs were published by the mining (approximately 4.5 graphs per company) and energy (approximately 1.5). Fewer graphs in the other domains were published; they only accounted for approximately 0.5% of the overall graphs.

In contrast, the low sensitive industry sector companies published approximately 15% environmental and social, approximately 6% economic, and 6.5% other domain graphs. Within the environmental domain, the telecommunications sector led the way (approximately 13 graphs per company), followed by retail (approximately 8). The financial services companies published the least environmental graphs (approximately 5 graphs per company). Within the social domain, the retail sector

led the way (approximately 13 graphs per company), followed by financial services (approximately 8). Both the communication and the media sectors published the least graphs (4.5 and 4 graphs per company respectively). The economic domain was led by retail (approximately 10 graphs per company), followed by financial services (approximately 3). The telecommunications sector published 0.25 economic graphs per company, while the media sector did not publish any. Within the other domains, the financial service led the way (approximately 4 graphs per company), followed by media (approximately 2.5). The telecommunications and retail companies made use of the fewest other domain graphs per company (approximately 2.5 and 1.5 respectively).

Overall, the high-sensitive industry sectors produced approximately 12 environmental, 9 social, 5.5 economic and 0.25 other domain graphs per company, while the low-sensitive companies produced approximately 7 environmental, 7.5 social, 3 economic and 3 other domain graphs per company. Unexpectedly, the telecommunications companies published quantities of environmental graphs comparable to those published by the energy and chemical companies. The retail companies published proportions of social graphs substantially equal to those published by the automotive companies and economic graphs in proportions comparable to those published by the chemical companies.

As a result, the overall findings in relation to environmental, social, and economic graphs are in line with this study's theoretical framework. This reflects that those companies that is widely known in society and is closely associated with highly visible environmental issues such as global warming and water pollution will communicate selective legitimate-looking activities to their stakeholders in order to meet societal expectations and satisfy public demands (Cho, Roberts & Patten, 2010;

Milne & Patten, 2002). The environmental and social records of these companies face greater scrutiny by NGOs (Fortanier, Kolk & Pinkse, 2011). By contrast, low-sensitive industry sectors, having significantly lower environmental impacts and being associated with fewer visible environmental issues, are subjected to lower stakeholder pressure in regard to their environmental performance and are thus expected to display a lesser degree of disclosure activism (Brammer & Millington, 2006). The evidence also suggests that the high sensitive industry sectors (chemical, energy, automotive, and mining) have greater self-serving incentives to disclose more voluntary information for impression management purposes than their low-sensitive counterparts (Jones, 2011).

Table 47: Analysis of graph use and domains between all sectors by average and percentage

Sector	Environmental			Social			Economic			Others			Total
	No	**Average**	**%**	**No**	**Average**	**%**	**No**	**Average**	**%**	**No**	**Average**	**%**	
High sensitive industry sectors													
Chemical	105	11.5	6.5	77	8.5	4.5	124	14	7.5	0	0	0	306
Energy	220	12.25	13.25	152	8.5	9	28	1.5	1.5	4	0.10	0.25	404
Automotive	61	20.5	3.5	43	14.5	2.5	19	6.5	1	6	2	0.25	129
Mining	43	8.5	2.5	51	10	3	23	4.5	1.5	0	0	0	117
Total	**429**	**12.25**	**26**	**323**	**9.25**	**19.5**	**194**	**5.5**	**12**	**10**	**0.25**	**0.50**	**956**
Low sensitive industry sectors													
Financial service	103	5	6	167	8	10	65	3	4	79	4	5	414
Telecommunication	102	13	6	36	4.5	2	2	0.5	0.10	19	2.5	1	159
Retail	25	8.5	1.5	40	13.5	2.50	29	10	2	5	1.5	0.5	99
Media	15	7.5	1	8	4	0.5	0	0	0	6	3	0.5	29
Total	**245**	**7**	**15**	**251**	**7.5**	**15**	**96**	**3**	**6**	**109**	**3**	**6.5**	**701**

6.3.4 Analysis of the topics graphed between high and low-sensitive sectors

A comparative analysis of the graph topics published by the high and low sensitive industry sectors showed marked variations, as shown in Appendices 27-34. However, in general, within the environmental domain, most of the topics were graphed more in the high sensitive industry sectors than in the low sensitive ones. The top four topics (emissions, waste output, water use, and energy consumption) cumulatively accounted for approximately 20% of all graphs published by the former, compared to 11% for the latter. Similarly, the top three social topics graphed (health and safety, employees, and social investment) accounted for approximately 18.5% versus 14%. Within the economic domain, sales graphs were more widely used in the high-sensitive industry sectors, which published 6.5%, compared to 1.5% by low-sensitive industry sectors. These findings concurred with this study's theoretical framework, which suggests that high sensitive industry sectors employ selective graphs for impression management and legitimacy purposes i.e., to highlight their contributions/achievements in prominent sustainability areas to respond to negative media news or to attain reputation building. As discussed, high sensitive industry sectors are subject to public pressure; therefore, the selection of sustainability issue topics may represent an attempt to gain legitimacy by telling their side of the environmental, social, and economic story, steering public attention towards more positive directions and therefore away from any actual problems.

Table 48: Topics graphed between high and low sensitive sectors

	Chemical	Energy	Mining	Automotive	Total	Financial	Telecommunication	Media	Retail	Total
Environmental										
Emissions (GHG, CO2, NOX and SO2)	39	74	14	17	144	28	38	7	8	81
Hazardous waste	7	31	1	7	46	9	9	4	1	23
Energy (consumption, savings and efficiency)	18	29	12	13	72	24	22	3	1	50
Gas (use and reduction)	0	6	0	0	6	1	0	0	1	2
Water	17	31	6	8	62	8	13	1	8	30
Environmental (investments, expenditures, incidence, sustainable activities and innovation)	8	12	4	4	28	6	0	0	2	8
Carbon (intensity and productivity)	2	11	0	0	13	5	0	0	1	6
Recycling	6	3	5	5	19	5	12	0	2	19
Raw materials use/savings	8	2	0	1	11	17	8	0	1	26
Noise reductions/Damages	0	5	1	6	12	0	0	0	0	0
Spills	0	16	0	0	16	0	0	0	0	0
Total	**105**	**220**	**43**	**61**	**429**	**103**	**102**	**15**	**25**	**245**

Social										
Safety and health (injuries, incidence, illness)	19	42	09	5	75	0	3	0	5	08
Employee (contribution, diversity and training etc.)	38	77	28	32	175	139	31	8	30	208
Supplier data	2	11	4	1	18	12	0	0	5	17
Social investment (education)	18	22	10	5	55	16	2	0	0	18
Total	**77**	**152**	**51**	**43**	**323**	**167**	**36**	**8**	**40**	**251**
Economic										
Sales revenue (geographic and segment)	71	17	9	6	103	04	0	0	18	22
EBITDA (geographic and segment)	6	1	0	0	7	0	0	0	0	0
Cash flows	3	0	0	0	3	0	0	0	1	01
Shareholders (dividend, structure and value creations)	15	2	12	0	29	18	2	0	4	24
Income and Growth (division, geographic and segment)	17	3	0	9	29	18	0	0	4	22
Expenditures	3	0	1	0	4	0	0	0	1	01
Equity (debt to equity and return on equity, total assets and return on assets)	9	3	0	0	12	18	0	0	0	18
Investments	0	0	0	0	0	2	0	0	1	03
Economic performances	0	2	1	4	7	5	0	0	0	05
Total	**124**	**28**	**23**	**19**	**194**	**65**	**2**	**0**	**29**	**96**

Table 49: Topics graphed between high and low sensitive sectors by mean

	Chemical	Energy	Mining	Automotive	Total	Financial	Telecommunication	Retailer	Media	Total
Environmental										
Emissions (GHG, CO2, NOX and SO2)	4.5	4	3	5.5	4	1.5	5	2.5	3.5	2.5
Hazardous waste	0.75	1.75	0.25	2.25	1.25	0.5	1	0.5	2	0.5
Energy (consumption, savings and efficiency)	2	1.5	2.5	4.25	2	1.25	3	0.5	1.5	1.5
Gas (use and reduction)	0	0.25	0	0	0.25	0.05	0	0.5	0	0.05
Water	2	1.75	1.25	2.75	1.75	0.5	1.5	2.5	0.5	2
Environmental (investments, expenditures, incidence, sustainable activities and innovation)	1	0.5	0.75	1.25	0.75	0.25	0	0.5	0	0.25
Carbon (intensity and productivity)	0.25	0.5	0	0	0.5	0.25	0	0.25	0	0.25
Recycling	0.5	0.25	1	1	0.5	0.25	1.5	0.5	0	0.5
Raw materials use/savings	1	0.10	0	0.25	0.25	1	1	0.25	0	0.8
Noise reductions/Damages	0	0.25	0.25	1.25	0.25	0	0	0	0	0
Spills	0	1	0	0	0.5	0	0	0	0	0
Total	**11.5**	**12**	**8.5**	**20.5**	**12.5**	**5**	**13**	**8.5**	**7.5**	**7.5**
Social										
Safety and health (injuries, incidence, illness)	2.5	2.5	2	1.5	2.25	0	0.25	1.5	0	0.25

Employee (contribution, diversity and training etc)	4.25	4.25	5.5	10.5	5	6.5	4	10	4	6
Supplier data	0.25	0.5	1	0.25	0.5	0.5	0	1.5	0	0.5
Social investment (education)	2	1.25	2	1.5	1.5	0.75	0.25	0	0	0.5
Total	**8.5**	**8.5**	**10**	**14.5**	**9**	**8**	**4.5**	**13.5**	**4**	**7.5**
Economic										
Sales revenue (geographic and segment)	8	1	2	2	3	0.25	0	6	0	0.5
EBITDA (geographic and segment)	0.5	0.05	0	0	0.25	0	0	0	0	0
Cash flows	0.25	0	0	0	0.10	0	0	0.25	0	0.02
Shareholders (dividend, structure and value creations)	1.5	0.1	2.5	0	1	1	0	1.25	0	0.75
Income and Growth (division, geographic and segment)	2	0.25	0	3	1	1	0	1.25	0	0.5
Expenditures	0.25	0	0.25	0	0.1	0	0	0.25	0	0.02
Equity (debt to equity and return on equity, total assets and return on assets)	1	0	0	0	0.25	1	0	0	0	0.5
Investments	0	0	0	0	0	0.10	0	0.25	0	0.10
Economic performances	0	0.1	0.25	1.25	0.25	0.25	0	0	0	0.1
Total	**13.5**	**1.5**	**4.5**	**6.5**	**5.5**	**3**	**0.25**	**9.5**	**0**	**3**

6.3.5 Analysis of the graph colour usage between high and low sensitive sectors

Table 50 and Appendices 35-42 show the comparative results on graph colour usage between high-and low-sensitive industry sectors. As expected, the former used more predominant colours (green, mixed, blue and orange) than the latter.

The high-sensitive industry sectors used approximately 18% green, 13% mixed, 11% blue and 7% orange, compared to 6.5% green, 11% mixed, 6.2% blue and 9.5% orange by the low sensitive ones. Additionally, the former used 2.25% red, 2% grey and 1.5% purple compared to 2.50% red, 2.50% grey, and 1.75% purple by the latter.

Overall, the high-sensitive industry sector companies produced approximately 9 greens, 6 mixed, 5 blue and 3.5 orange graphs per company. In contrast, low-sensitive companies produced 3 green, 5.5 mixed, 3 blue, and 4.5 orange graphs per company. However, unexpectedly, the retail companies published roughly the same proportions of green graphs as the energy companies, and higher proportions of mixed colour graphs than all the companies in the high-sensitive industry sectors. With regard to the colour blue, unexpectedly, the media companies made use of greater proportions of it than the chemical and energy companies, while the financial services companies published almost the same proportions of blue graphs as the energy companies. Similarly, the financial services companies made use of higher proportions of orange in their graphs than the chemical, energy and mining companies. Also, the use of orange by the telecommunications companies was comparable to that of the energy companies.

Overall, the results fit well with the existing evidence on the corporate use of colour in graphs in financial reports as tools of impression management (Beattie & Jones, 1992; 1997; 1999; 2002; Godfrey, Mather & Ramsay, 2003). This shows that

managers appear to manipulate the use of colour in order to obfuscate the underlying performance. Alternatively, they may use green, mixed colours, and blue in order to highlight positive performance in regard to sustainability issues. Hence, just like they appear to use colour in the graphs published in financial reports as impression management tools in relation to financial performance, high-sensitive industry sector companies may be doing the same in standalone sustainability reports to project a more favourable image not only of their financial, but also of their sustainable performance.

Table 50: Graph colour usage between all sectors in terms of mean and percenta

	Green			Mixed			Blue			Orange			Other			Red			Grey			Purple		
	No	**Mean**	**%**	**No**	**Mean**	**%**	**No**	**Mean**	**%**	**No**	**Mean**	**%**	**No**	**Mean**	**%**	**No**	**Mean**	**%**	**No**	**Mean**	**%**	**No**	**Mean**	**%**
High sensitive industry sectors																								
Chemical	175	19	10.5	41	4.5	2.5	38	4.25	2.25	13	1.5	0.75	0	0	0	16	1.75	1	5	0.5	0.25	20	2.25	1.25
Energy	124	7	7.5	131	7.25	8	52	3	3	37	2	2.25	17	1	1	15	1	1	22	1.25	1.25	6	0.25	0.25
Automotive	0	0	0	17	3.5	1	46	15	2.75	63	21	3.75	0	0	0	3	1	0.25	0	0	0	0	0	0
Mining	4	0.75	0.25	24	4.75	1.5	42	8.5	2.5	6	1.25	0.25	35	7	2	2	0.5	0.10	4	0.75	0.25	0	0	0
Total mean and %	**301**	**8.5**	**18.25**	**213**	**6**	**13**	**178**	**5**	**10.75**	**119**	**3.5**	**7.25**	**52**	**1.5**	**3**	**36**	**1**	**2.25**	**31**	**1**	**2**	**26**	**0.75**	**1.5**
Low sensitive industry sectors																								
Financial services	51	2.5	3	93	4.5	5.50	62	3	3.75	135	6.5	8.25	24	1.25	1.5	28	1.25	1.75	21	1	1.25	0	0	0
Telecommunication	31	4	2	46	5.75	2.75	14	1.75	0.75	17	2	1	8	1	0.5	3	0.5	0.25	16	2	1	24	3	1.5
Media	1	0.5	0.05	7	3.5	0.50	15	7.5	1	0	0	0	0	0	0	1	0.5	0.05	5	2.5	0.25	0	0	0
Retailer	23	7.5	1.50	37	12	2.25	11	3.5	0.5	5	1.5	0.25	9	3	0.5	8	2.75	0.50	1	0.5	0.05	5	1.75	0.25
Total mean and %	**106**	**3**	**6.50**	**183**	**5.5**	**11**	**102**	**3**	**6**	**157**	**4.5**	**9.50**	**41**	**1.25**	**2.5**	**40**	**1.25**	**2.5**	**43**	**1.25**	**2.5**	**29**	**1**	**1.75**

6.4 Summary

	Summary findings from graph use in all companies
Graph use	On average, there has been an increase in the average number of graphs per report: 25 compared to 12.83 (Jones, 2011) and 12.6 (Cho et al., 2012b), as shown in Table 36.
Types of graph	The vertical column and bar graphs were the most popular. They accounted for 36% (column) and 22.5% (bar) of all graphs, as shown in Table 37. The least used graphs were pictorial and line ones.
Time-series of graph	The vast majority of the graphs covered time series of less than five years (e.g., 1379 or approximately 83%), as shown in Table 38.
Topics graphed	The companies published 44% environmental, 37% social and 19% economic graphs, as shown in Table 39. The top three social graph topics (employees, social investments, and employee health/safety) accounted for 33% of all graphs. The top four environmental graph topics (emissions, water use, energy saving/consumption, and waste) accounted for 32% of all graphs, as shown in Table 41 and 42.
Colour	The most popular colour in standalone sustainability reports were green (24.5%), blue (17%), and orange (16.5%), as shown in Table 43.

High- versus low-sensitive industry sectors graph use	
Graph use	High-sensitive industry sector companies used 27 graphs per company, compared to 20.5 for the low sensitive industry sector ones, as shown in Table 44. The chemical and energy sectors led graph usage in the high sensitive industry sectors; the financial services and telecommunications sectors saw the highest use of graphs in the low sensitive industry sectors.
Types of graph	Table 45 revealed that high-sensitive industry sector companies produced more column and bar graphs than low-sensitive sector ones: 10 columns and 6 bar graphs, versus 7.5 and 4.5.
Graph time-series	High-sensitive industry sector companies employed shorter time-series in their graphs than low-sensitive sector ones: 20 less than five-year, 5 five-year, and 1.5 more than five-year per company, compared to 19, 0.5, and 0.5, as shown in Table 46.
Topic graphed	High-sensitive industry sector companies used more environmental, social and economic graphs than low-sensitive industry sector ones: 12 environmental, 9 social and 5.5 economic per company, compared to 7, 7.5, and 3, as shown in Table 48-49.
Colour	High sensitive industry sector companies used more green (8.5 units) followed by blue (5 units), compared to 3 units of blue and 3 of green in the low sensitive industry sectors as shown in Table 50. Unexpectedly, the high sensitive industry sector companies used less orange (on average 3.5 units per company) compared to 4.5 in the low sensitive industry sectors.

This thesis makes some important contributions. It extends the research conducted by Jones (2011), Hrasky (2012), and Cho et al. (2012a; 2012b) by grounding theory of impression management and legitimacy theory. It also examines recent (2014) standalone sustainability reports from a worldwide sample of companies, and considers the context of the GRI guidelines and the use of colour in graphs, all of which had been under-researched in reference to the graphical disclosures published in sustainability reports. It also considers sector sensitivity, which, with the exceptions of Jones (2011), had been under-researched.

In summary, the key findings are: (i) the usage of graphs has doubled compared to annual reports; (ii) companies typically use more column and bar graphs; (iii) graphs focus on environmental and social, rather than economic issues; (iv) companies display relatively shorter time-series (less than five years); (v) companies show a preference for the use of the colour green; (v) high-sensitive industry sector companies use more graphs, produce more column and bar graphs, use shorter time-series graphs, publish more environmental, social, and economic graphs, and use more green in their graphs than low-sensitive industry sector companies; (vi) the chemical and the energy companies and the financial and the telecommunications companies drive graph usage in the high- and low sensitive industry sectors respectively.

Overall, the results indicate that the high sensitive industry sectors appear particularly keen to emphasise their environmental and social activities graphically, which is consistent with legitimacy theory.

Chapter Seven: Visual impression management in graphs

The analysis of the overall make-up of stand-alone sustainability reports and of graph usage in the previous chapters found that graphs are an important component. This chapter analyses whether graphs are used as a means of visual impression management. There are four subsidiary research objectives:

- to analyse the general graphical presentation of good and bad news;
- to analyse the graphical presentation of good and bad news in environmental and social issues;
- to analyse the general measurement distortions of good and bad news graphs using the RGDI index
- to analyse the graphical measurement distortions of good and bad news in environmental and social issues

As in the previous chapter, the analysis is presented as follows:

- Firstly, for all companies, and
- Secondly analysed between high and low sensitive sectors.

The objective of the present study is to determine whether impression management is a factor in the choices made to include or exclude graphs of 'bad' or 'good' news in the context of environmental and social issues. These issues are important since stand-alone sustainability reports enable the management to use their own discretion in selecting information to be reported; it is possible for poor performers to bias their selections in order to appear as better performers. The control of this information by company executives favours a tendency towards greenwashing rather than

transparency (Laufer, 2003). In terms of the selectivity of good and bad news topics, many studies reveal that companies use significantly more graphs which show favourable rather than unfavourable performance in annual reports (see, for example, Beattie & Jones 1996; 2000a; 2000b; Frownfelter & Fulkerson, 1998). This was also evident in stand-alone sustainability reports (Jones, 2011; Cho et al. 2012a; 2012b).

On measurement distortions in annual reports, Beattie & Jones (2008) report that the results of the 8 pertinent studies show that the overall results are indicative of a systematic bias in a company's favour. This concurred with Jones (2011) and Cho et al (2012a; b) studies in stand-alone sustainability reports. This evidence suggests that there is a self-serving management agenda rather than a notion that firms are trying to be truly accountable to stakeholders for their environmental performance (Jones, 2011).

7.1 Impression management through graphical presentation of good and bad news

As discussed in chapter Four '4.3.2', there are good topics (e.g. recycling or environment expenditures) and bad topics (e.g. energy usage, water consumption or air emissions), (Jones, 2011). From a corporation perspective, an increased trend in a good topic, such as recycling, is good news, while, a decreased trend is bad news. Conversely, an increased trend in a bad topic, such as air emissions, is bad news, whereas, a decreased trend is good news. The current study employed Jones's (2011) notion of good and bad news in relation to the impression management of graphs in the context of the GRI guidelines (A or A+). The present study focuses on the time-series of graphs (bar and column graphs) in the context of environmental and social issues.

7.1.1 Graphical presentation of good and bad news across all companies

As shown in Table 51 and appendices 43-50, there were 1657 graphs in total (528 time-series environmental and social graphs and 1129 non-time-series graphs). The present study focused on time-series graphs across environmental and social issues and thereby the sample included 528 time-series graphs. In total, there were 181(or 23.5%) instances of good news topics and 347 (or 76.5%) instances of bad news topics. When the nature of the trends is taken into account, companies overwhelmingly preferred to select a combination of topics and trends which together presented a favourable (408 cases or 77.5%) rather than unfavourable (120 cases or 22.5%) impression of corporate environmental and social performance. This support current study theoretical framework of visual impression management and legitimacy theory, and is also consistent with studies by Jones (2011) and Cho et al. (2012a; b). For example, overall, Jones (2011) found 299 cases of favourable and 104 cases of unfavourable trends in corporate performance. Of the 299 favourably presented trends, 108 out of 130 (83%) were for good news topics and 191 out of 273 (70%) were for bad news topics. Cho et al. (2012a) reported 1152 (or 70.5%) cases of graphs depicting favourable trends and 482 (or 29.5%) graphs depicting unfavourable or flat trends. In another paper, Cho et al. (2012b) reported that overall 451 of the 570 graphs (79%) reflected items depicting favourable trends.

Table 51: Good and bad news graph by all companies

	Trend presented favourably	Total No	%	Trends presented unfavorably	Total No	%	Overall	
							No	%
Good news graphs	Increasing trends	**153**	84.5	Decreasing trend	**28**	15.5	181	11
Bad news graphs	Decreasing trends	**255**	73.5	Increasing trend	**92**	26.5	347	21
Total time-series environmental and social graphs		**408**	**77.5**		**120**	**22.5**	**528**	**32**
Non- Time-series graphs							**1129**	**68**
Total graphs							**1657**	**100**

***Time-series graph includes more than one-year's data (e.g. Bar and column environmental and social graphs)**

*** Non-Time-series graph includes only one-year's data (e.g. pie and pictorial graphs)**

***There were 528 environmental and social graphs (32% of time-series graphs)**

***77.5% of all companies present environmental and social trends favourably**

7.1.2 Graphical presentation of good & bad news in environmental and social graphs

Table 52 shows the breakdown between environmental and social graphs. The trend towards showing favourable news applies across both categories, but is more marked in graphs depicting environmental issues (73%) relative to social issues (87%). This is in line with the present theoretical framework, which suggests that graphs may be used as impression management tools to present favourable rather than unfavourable performance of the company. This is also consistent with Cho et al. (2012b)'s study, where it was found that a favourable bias was found in 77.5% of graphs depicting environmental items and 80.5% of social item graphs.

Table 52: Good and bad environmental and social graphs by all companies

	Trend presented favourably	Total No	%	Trend presented unfavorably	Total No	%	Overall
Environmental							
Good news graph	Increasing trend	52	81	Decreasing trend	12	19	64
Bad news graph	Decreasing trend	215	71	Increasing trend	86	29	301
Total		**267**	**73**		**98**	**27**	**365**
Social							
Good news graph	Increasing trend	101	86	Decreasing	16	14	117
Bad news graph	Decreasing trend	40	87	Increasing	6	13	46
Total		**141**	**86.5**		**22**	**13.5**	**163**
Overall graphs		**408**	**77**		**120**	**23**	**528**

7.1.3 Graphical presentation of good and bad news by high and low sensitive sectors

The distribution of favourable and unfavourable trends is shown between high and low sensitive sectors in Table 53 and appendices 43-50. Both high sensitive and low-sensitive sectors presented a significantly higher number of favourable as opposed to unfavourable trends. However, as anticipated, the high sensitive companies used more favourable trends: 81% compared to 70% in the low sensitive sectors. This suggests that the high sensitive sectors (ratio 4:1 favourable to unfavourable) were more selective in their choice of graphs compared to (approximately ratio 2.5:1 favourable to unfavourable) in the low sensitive companies.

Within the high sensitive sectors, all sectors used a higher number of favourable rather than unfavourable trends. For example, in the chemical sector, there were almost four times as many favourable trends as there were unfavourable ones (83% favourable and 13% unfavourable trends). Similarly, the energy companies used two and half times as many favourable as opposed to unfavourable trends (78% favourable and 22% unfavourable trends).

The Automotive companies selected approximately eight times as many favourable trends as unfavourable ones (90% favourable and 10% unfavourable trends). The mining companies used approximately two and half times more favourable trends than they did unfavourable ones (77% favourable and 23% unfavourable trends).

In contrast, within the low sensitive sectors, graphs depicting favourable trends were particularly common in the two low sensitive sectors (financial Services and the telecommunications sectors). For example, the financial services companies selected almost two and half times as many favourable trends than they did unfavourable ones (76% favourable and 24% unfavourable trends). The telecommunications companies chose almost

two times as many favourable trends than they did unfavourable trends (71% favourable and 29% unfavourable trends). The retail companies used fewer favourable trends than unfavourable ones (42% favourable and 58% unfavourable trends). The media companies used 55.5% favourable and 45.5% unfavourable trends.

Overall, the result is consistent with the theoretical framework, which states that high sensitive sectors appear particularly keen to engage in the impression management of graphs in line with legitimacy theory. This is also consistent with Jones's (2011) study that companies in the extractive industries (the most high impact environmental industrial sector) chose to report on a significantly higher number of favourable trends than the low impact sectors did.

Unexpectedly, some low sensitive sectors such as financial and telecommunications companies were also keen users of favourable rather than unfavourable graphs. This concurred with Jones's (2011) study. For example, in his study, the financial Services sector used: 73% (favourable) and 27% (unfavourable) compared to 81% (favourable) and 19% (unfavourable) in the telecommunications sector. This may suggest that these sectors have also recognised the importance of impression management and thereby use graphs as an instrument of impression management rather than to provide incremental information.

Table 53: Distributions of good and bad news topics between sectors by mean and percentage

Sector	Bad news topic FDT	%	Good news topic FIT	%	Total	%	Mean	Bad news topics UFIT	%	Good news topics UFDT	%	Total	%	Mean	Total trends
High sensitive sector															
Chemical	37	43.5	33	39	70	82.5	8	12	14	3	3.5	15	17.5	1.5	85
Energy	99	61.5	27	17	126	78.5	7	30	18.5	5	3	35	21.5	2	161
Automotives	31	53.5	21	36	52	89.5	17.5	3	5	3	5	06	10.5	2	58
Mining	20	45.5	14	32	34	77.5	7	10	22.5	0	0	10	22.5	2	44
Total	**187**	**53.5**	**95**	**27.5**	**282**	**81**	**70.5**	**55**	**16**	**11**	**3**	**66**	**19**	**16.5**	**348**
Low sensitive sector															
Financial services	30	32	41	44	71	76.5	3.5	12	13	10	11	22	23.5	1	93
Telecommunications	29	49	13	22	42	71	5.5	11	18.5	6	10	17	29	2	59
Media	5	55.5	0	0	5	55.5	2.5	4	45.5	0	0	4	44.5	2	9
Retail	04	21	4	21	8	42	2.5	10	52.5	1	5.5	11	58	3.5	19
Total	**68**	**38**	**58**	**32**	**126**	**70**	**17.5**	**37**	**20.5**	**17**	**9.5**	**54**	**30**	**7.5**	**180**
Total high and low sensitive sectors	**255**	**48.5**	**153**	**29**	**408**	**77.5**	**51**	**92**	**17.5**	**28**	**5.5**	**120**	**22.5**	**15**	**528**
*** FDT: Favourable decreasing trends FIT: Favourable increasing trend UFIT: Unfavourable increasing trend UFDT: Unfavourable decreasing trend**															

7.1.4 Graphical presentation of good and bad news in environmental by all sectors

The distribution of favourable and unfavourable environmental graph trends is shown by high and low sensitive sectors in Table 54 and appendices 43-50. As anticipated, the high sensitive sectors used a higher number of favourable as opposed to unfavourable environmental graphs than the low sensitive sectors: 79% favourable and 21% unfavourable compared to 68% favourable and 32% unfavourable in the low sensitive sectors.

The high sensitive sectors used approximately four times as many favourable graph trends as they did unfavourable ones. Of the presented 198 favourable environmental trends, 39 (90.5%) out of 43 highlighted good news topics and 159 (76%) out of 209 depicted bad news topics. In contrast, the low sensitive sectors used almost two times as many favourable environmental graph trends. Of the 78 favourable trends, 13 (72%) out of 18 were for good news topics and 65 (or 67%) out of 97 were for bad news topics.

As expected, within the high sensitive sectors, almost all sectors, excluding the mining sectors presented more favourable environmental graph trends. For example, chemical companies used almost five times as many favourable environmental trends as they did unfavourable ones (83% favourable and 17% unfavourable trends). Similarly, the energy companies depicted three times as many favourable environmental trends as they did unfavourable ones (75% favourable and 25% unfavourable trends). The automotive companies selected almost ten times as many favourable environmental topics as unfavourable ones (91% favourable and 9% unfavourable trends). Whereas the mining companies chose to present almost one and half times as many favourable environmental trends as they did unfavourable ones (59% favourable and 41% unfavourable environmental trends).

Conversely and unexpectedly, in the low sensitive sectors, almost all sectors, excluding retail chose to report on a higher number of favourable environmental trends. For example, the financial services and telecommunications companies elected to present almost three times as many favourable environmental graph topics as they did unfavourable ones (72% favourable and 28% unfavourable trends). Similarly, the telecommunications companies used twice as many favourable environmental graph topics (68% favourable and 32% unfavourable). The media companies reported solely (100%) on favourable trends, compared to 37.5% favourable and 62.5% unfavourable trends in the retail sector.

As a result, both sectors showed a preference for favourable over unfavourable trends but, as anticipated, the high sensitive sectors devoted more graphs to favourable rather than unfavourable trends compared to the low sensitive sectors. Unexpectedly, the propensity of the financial services and telecommunications sectors to report on favourable rather than unfavourable trends is more in line with the behaviour of the energy companies. Thus, the financial services and telecommunications sectors are keen to give a favourable impression of their environmental activities and, surprisingly, their reporting patterns differ from those companies in the low sensitive sectors. This may be due to their improved environmental performance and as such, they may aim to provide incremental information to the users. Or alternatively, this line of reporting may be used as a means of impression management to portray a more positive performance than is warranted.

However, as anticipated, overall the result is consistent with the present theoretical framework and prior study of impression management in stand-alone sustainability reports (Jones,2011).

Table 54: Good and bad environmental graphs between sectors by mean and percentage

Sector	Bad news topic FDT	%	Good news topic FIT	%	Total	%	Mean	Bad news topics UFIT	%	Good news topics UFDT	%	Total	%	Mean	Total trends
High sensitive sector															
Environmental															
Chemical	34	52	20	31	54	83	6	11	17	0	0	11	17	1	65
Energy	87	71.5	5	4	92	75.5	5	27	22	3	2.5	30	24.5	1.5	122
Automotives	27	63	12	28	39	90.5	13	3	7	1	2.5	4	9.5	1.5	43
Mining	11	50	2	9	13	59	2.5	9	41	0	0	9	41	2	22
Total high sensitive sector	**159**	**63**	**39**	**15.5**	**198**	**78.5**	**49.5**	**50**	**20**	**4**	**1.5**	**54**	**21.5**	**13.5**	**252**
Low sensitive sector															
Financial services	27	63	4	9.5	31	72	1.5	12	28	0	0	12	28	0.5	43
Telecommunications	25	53	7	15	32	68	4	11	23.5	4	8.5	15	32	2	47
Media	9	100	0	0	9	100	4.5	0	0	0	0	0	0	0	9
Retail	4	25	2	12.5	6	37.5	2	9	56.5	1	6.5	10	62.5	3.5	16
Total low sensitive sectors	**65**	**56.5**	**13**	**11.5**	**78**	**68**	**19.5**	**32**	**28**	**5**	**4.5**	**37**	**32.5**	**9**	**115**
Total high and low sensitive sectors	**224**	**61**	**52**	**14**	**276**	**75**	**35**	**82**	**22.5**	**9**	**2.5**	**91**	**25**	**25**	**367**
*** FDT: Favourable decreasing trends FIT: Favourable increasing trend UFIT: Unfavourable increasing trend UFDT: Unfavourable decreasing trend**															

7.1.5 Graphical presentation of good and bad news in social by high and low sensitive sectors

Table 55 shows favourable and unfavourable graph trends between high and low sensitive sectors. As expected, high sensitive sectors used a higher number of favourable social graph trends than they did unfavourable ones: 87.5% favourable and 12.5% unfavourable compared to 80% favourable and 20% unfavourable in the low sensitive sectors.

Within the high sensitive companies, of the presented 52 favourable social trends, 45 (79%) out of 57 reported on good news topics and 7 (87.5%) out of 8 depicted bad news topics. Almost all sectors employed graphs to depict more favourable trends over unfavourable ones. For example, chemical companies used four times as many favourable trends (80% favourable and 20% unfavourable). The energy companies used seven times as many favourable trends (87% favourable and 13% unfavourable). The automotive companies reported on almost six times as many favourable trends (87% favourable and 13% unfavourable). The mining companies depicted almost twenty-one times as many favourable trends as they did unfavourable ones (95.5% favourable and 4.5% unfavourable).

In contrast, unexpectedly, most of the low sensitive sectors used a higher number of favourable social graph trends than they did unfavourable trends. For example, financial Services companies reported on almost four times as many favourable trends as they did unfavourable ones (80% favourable and 20% unfavourable). Similarly, the telecommunications companies used five times as many favourable trends as they did unfavourable trends (83% favourable and 17% unfavourable). On the other hand, the retail companies presented twice as many favourable trends as they did unfavourable ones (67% favourable and 33% unfavourable trends). As expected, the media sector did not engage in the impression management of graphs.

Overall, there is considerable evidence of impression management when it comes to the choice of items graphed in the GRI stand-alone sustainability reports. However, unexpectedly, when it comes to social graph practices, some low sensitive sectors have more in common with the high sensitive sectors. For example, chemical and financial services, and automotive and telecommunications demonstrated a propensity to present a higher number of favourable graph trends than unfavourable ones.

Hence, overall the results support the present theoretical framework that companies use graphs as a means of impression management in order to present a more favourable performance than is warranted. However, the results provide insufficient evidence to support the legitimacy theory that the degree of selectivity of good and bad news social graph topics will be more prevalent in the high rather than low sensitive sectors in order to maintain legitimacy within the society. That said, it does support the impression management framework which suggests that companies are incentivised to portray better performance than is warranted in order to maintain legitimacy within the society and convince users that they are better performers in terms of sustainability.

Table 55: Good and bad social graphs between sectors by mean and percentage

Sector	Bad news topic FDT	%	Good news topic FIT	%	Total	%	Mean	Bad news topics UFIT	%	Good news topics UFDT	%	Total	%	Mean	Total trends
High sensitive sectors															
Social															
Chemical	3	15	13	65	16	80	2	1	5	3	15	4	20	0.5	20
Energy	12	31	22	56.5	34	87	2	3	7.5	2	5	5	13	0.50	39
Automotives	4	26.5	9	60	13	86.5	4.5	0	0	2	13.5	2	13.5	0.50	15
Mining	9	41	12	54.5	21	95.5	4	1	4.5	0	0	1	4.5	0.25	22
Total high sensitive sector	**28**	**29**	**56**	**58.5**	**84**	**87.5**	**21**	**5**	**5**	**7**	**7.5**	**12**	**12.5**	**3**	**96**
Low sensitive sector															
Financial services	3	6	37	74	40	80	2	0	0	10	20	10	20	0.50	50
Telecommunications	4	33.5	6	50	10	83.5	0.50	0	0	2	16.5	2	16.5	0.25	12
Media	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	2	66.5	2	66.5	0.50	1	33.5	0	0	1	33.5	0.5	3
Total low sensitive sectors	**7**	**11**	**45**	**69**	**52**	**80**	**20**	**1**	**1.5**	**12**	**18.5**	**13**	**20**	**3.5**	**65**
Total high and low sensitive sectors	**35**	**21.5**	**101**	**62.5**	**136**	**84.5**	**17**	**6**	**3.5**	**19**	**12**	**25**	**15.5**	**3**	**161**
***FDT: Favourable decreasing trends FIT: Favourable increasing trend UFIT: Unfavourable increasing trend UFDT: Unfavourable decreasing trend**															

Summary

As expected, all GRI companies employed a higher proportion of favourable trends than they did unfavourable ones: 77% favourable compared to 23% unfavourable trends. This concurred with Jones (2011; Cho et al., 2012a, b). All these studies revealed that graphs are used as an impression management tool whereby companies use selective graphical information to portray favourable performance of the company.

Across environmental and social graphs, companies employed a higher number of favourable social graph trends than they did in environmental ones: 88% favourable social compared to 72.5% favourable environmental trends. This is in line with Cho et al. (2012b) study.

Furthermore, an analysis of graphs across high and low sensitive sectors showed that both sectors used more favourable trends compared to unfavourable ones. As expected, high sensitive companies reported on a higher number of favourable trends than unfavourable trends: 81% favourable compared to 70% favourable in the low sensitive sectors. Unexpectedly, financial services and telecommunications companies have more in common with the high sensitive sectors in that they report on a higher number of favourable rather than unfavourable trends. However, as anticipated, overall the results are in line with present theoretical framework and concur with Jones's (2011) study.

Across environmental and social graph trends, high sensitive sectors engage more with favourable trends than unfavourable ones: 79% favourable (environmental), 87.5% favourable (social) compared to 72% favourable (environmental) and 80% favourable (social) trends in the low sensitive sectors. As expected, all sectors employed more favourable environmental and social trends. However, unexpectedly, the financial services and telecommunications sectors have more in common with the energy companies in terms of

their reporting on environmental and socially favourable trends. This reveals that both sectors engage in the impression management of graphs and do not support legitimacy theory but are consistent with the impression management framework and support Jones (2011) and Cho et al. (2012a) findings. Jones (2011) found that financial Services companies used twice as many favourable trends as they did unfavourable trends. Whilst telecommunications companies used five times as many favourable trends as unfavourable ones. Cho et al. (2012a) argued that companies with better environmental and social performance have an incentive to use disclosure to signal this strategy to investors and other relevant stakeholders. Voluntary disclosure therefore makes it possible for a firm to inform stakeholders of the organisation's sustainability performance in order to distinguish itself from poor-performing competitors, and to increase its reputation by shedding light on hard-to-imitate sustainability strategies (Boiral, 2013).

7.2 Impression management in graphs through measurement distortion

The next section of the present study's analysis focuses on graph distortion and whether distortions also appear to be used as a means of impression management. This is also investigated between the high and low sensitive sectors as shown in appendices 51-58.

The fundamental principle of graph design is that the representation of numbers, as physically measured on the surface of the graph itself, should be directly proportional to the numerical values of the values being presented (Tufte & Graves-Morris, 1983, p. 56). Violations of this principal are defined as measurement distortions. The present study measures graph distortions using RGD measures as discussed in Chapter 4 (section 4.3.2). Mather, Mather, and Ramsay (2005) developed this metric to overcome several limitations inherent in the use of the graph discrepancy index (GDI) employed in most of the prior studies of graph distortions e.g.; (Beattie & Jones, 1992; 1997; 2000; 2002; Courtis, 1997).

Mather et al. (2005) defined RGD as:

RGD= (g2-g3/g3) where g2 is the height of the last column in the graph and g3 is the correct height of the last column if plotted accurately, i.e. g3= g1/d1*d2 where g1= height of the first column graph; d1= value of the first data point (corresponding to the first column); d2= value of the last data point (corresponding to the last column). Following Mather et al. (2005) and Muiño & Trombetta (2009), the present study chose a cut off point of 2.5 percent as the threshold for classifying graphs as being materially distorted. An example of how the RDI index works is demonstrated in Chapter 4 (section 4.3.2).

Furthermore, in order to determine whether the distorted graphs are used as a means of impression management, the present study classifies them as "favourable" or "unfavourable" distortions. Similar to the classifying of the selectivity of good and bad news topics in section 6.2, favourable distortions occur when the trend of a good item (e.g. increase in recycling) is

graphically overstated or the trend of a bad topic (e.g. increase in emissions) is graphically understated. When the opposite occurs, the distortion is classified as unfavourable. The next section presents the findings on the overall graph distortions.

7.2.1 Favourable and unfavourable graphical measurement distortion across all companies

Table 56 identifies the distribution of RGD scores. Table 57 and Appendices 51-58 summarise the incidence of favourable versus unfavourable distortions across the time-series graphs for the overall sample. There were 88.5% graphs that were materially distorted: 51.5% (negatively materially distorted) and 36.5% (positively materially distorted) graphs.

Table 56: Frequency Distribution of RGD Scores (Distortion) RGD (%)

Distortion relative graph discrepancy (%)	Trends	No	%
-100 < RGD ≤ -50	Negative favourably materially distorted	17	3.25
-50 <RGD ≤ -5	Negative favourably materially distorted	170	32.25
-5 < RGD ≤ -2.5	Negative favourably materially distorted	86	16.5
Total negative favourably materially distorted		**273**	**52**
2.5<RGD≤ 25	Positive favourably materially distorted	172	32.5
RGD ›25	Positive favourably materially distorted	22	4
Total positive favourably materially distorted		**194**	**36.5**
Total materially distorted graphs		**467**	**88.5**
Non-materially distorted graphs		**61**	**11.5**
Total		**528**	**100**

Table 57 shows that companies tended to distort trends of good news topics so that they appeared more favourable than the actual data warranted. Similarly, graphs of bad news topics were distorted so that the bad news topics were presented less unfavorably than was warranted.

Overall, there were 73% of cases (140 or 26.5%) relating to good news topics and 245 or 46.5% relating to bad news topics, where the data trend of the graph was distorted in a company's favour. By contrast, in only 82 or 15.5% (33 or 6.5% relating to good news and

49 or 9.5% relating to bad news) of cases were the graphs distorted unfavorably. Furthermore, there were 61 or approximately 12% of non-distorted graphs (45 cases relating to the bad news topics and 16 cases relating to the good news topics). This is somewhat higher than the percentage of materially distorted graphs reported by Beattie and Jones (1992) relative to graphs of key financial items in the UK and Australia and substantially higher than the 63% level of distorted graphs reported by Mather et al. (2000) for non-key financial variables in Australian IPOs. It is also substantially higher than the level of distortion reported by Beattie et al. (2008) for their 2004 UK sample in the annual reports.

Additionally, it is substantially higher than prior studies in stand-alone sustainability reports (Jones, 2011; Cho et al. 2012a; b). For example, Jones (2011) reported that there were 58.5% of cases (19% relating to the good news and 39.5% relating to the bad news) where the data trend of the graphs was distorted in a company's favour. By contrast, in only 41.5% of cases (13.5% relating to the good news and 28% relating to the bad news) were the graphs distorted unfavorably. Similarly, Cho et al. (2012a) found that 60% of the graphs with material distortions depicted the distortion in a way that was favourable to the company (overstating positive trends or understating negative ones). They concluded that where graphs are materially distorted in their presentation, companies are significantly more likely to present an image that suggests more favourable trends in performance than the data actually represents.

In another paper, Cho, Michelon, & Patten (2012b) reported that 125 of the 570 graphs (22%) contained material distortions. Overall, 74 of the 125 materially distorted graphs (59%) were distorted so as to present a more favourable view of the trends, whereas 51 graphs exhibited an unfavourable bias. This provides strong support to the theoretical framework which suggests that graphs are employed as an instrument of impression management whereby companies communicate their environmental and social performance more favourably than is

warranted. This also supports prior studies which suggest that CSR reporting is exploited as an opportunity to camouflage corporate activities (Boiral, 2013), obfuscate negative performance (Cho et al., 2010) and to project corporate images which are detached from reality. They may be deliberately tailored to manage public impressions (Neu et al,. 1998) and might be used to enhance the company's legitimacy in the eyes of the public (Hopwood, 2009).

Table 57: Favourable and unfavourable distortions of good and bad news by all companies

	Bad news topic		No distortions	Good news topic		No distortions	Overall FDS		Overall TUFDs		Overall no distortions	
Type of trend	**FDs**	**UFDs**		**FDs**	**UFDs**		**TFDs**	**TFDs**	**TUFDs**	**TUFDs**		
	No	**%**		**No**	**%**		**No**	**%**	**No**	**%**	**No**	**%**
Increasing trends	37	28	24	124	17	13	161	30.5	45	8.5	37	7
Decreasing trends	208	21	21	16	16	3	224	42.5	37	7	24	4.5
Total	**245**	**49**	**45**	**140**	**33**	**16**	**385**	**73**	**82**	**15.5**	**61**	**11.5**
*** FDS: Favourably distorted UFDS: Unfavorably distorted TFDs: Total favourably distorted TUFDs: Total unfavorably distorted**												

7.2.2 Favourable and unfavourable measurement distortion in environmental and social graphs across all companies

Table 58 identifies the distribution of RGD scores between the environmental and social graphs. 228 or approximately 49% of environmental graphs were negatively distorted and 98 or approximately 21% of environmental graphs were positively distorted. On the other hand, 45 or approximately 10 of social graphs were negatively distorted and 97 or approximately 21% of social graphs were positively distorted. Similarly, there were 97 or approximately 21% of social graphs that were positively distorted.

Table 59 and appendices 51-58 summarise the incidence of favourable versus unfavourable distortions across the environmental and social issues. Companies produced almost five times as many favourably distorted graphs depicting social and environmental issues as they did unfavourably distorted graph trends: approximately 51% (favourable), 11% (unfavourable) compared to approximately 22% (favourable) and 4.5% (unfavourable) materially distorted graphs across the social graphs.

There were 11% in the environmental and approximately 4% in the social categories of graphs that were not materially distorted. As a result, companies produced good and bad news environmental and social graphs in order to portray better performance than was warranted. This was markedly higher for bad news topics than for good news topics across environmental and social domains: 80% favourable (bad news environmental topics), 20% favourable (good news environmental topics) compared to 74% favourable (bad news social topics) and 26% favourable (social good news topics).

Overall, favourably distorted trends accounted for 73% of presented trends across environmental and social item graphs. This concurred with Cho et al. (2012b) study, which also found a higher percentage of favourably as opposed to unfavorably, materially distorted

graphs. For example, there were 38 (or 61.5%) favourably distorted social graphs and 24 (or 38.5%) unfavourably distorted social graphs. Similarly, there were 36 (or 58%) favourably distorted environmental graphs and 26 or (42%) unfavourably distorted environmental graphs. Jones (2011) and Cho et al. (2012a) did not show the break-down of favourable versus unfavourable bias for each sustainability area. In general, they showed that companies in less restrictive reporting regulatory environments appeared to be more likely to engage in impression management in their use of graphs. The present theoretical framework also suggests that visuals may be employed either as incremental information, providing faithful representation of the company's performance, including useful information to the users in order to assist them in the decision making, or they may be used as impression management tools whereby managers portray their environmental and social issues in a positive light. The evidence in the present study concurred with the impression management framework since companies used significantly more favourable graph distortions than unfavourable ones, across the environmental and social issues.

Table 58: Environmental and social frequency Distribution of RGD Scores (%)

Distortion relative graph discrepancy (%)	Environmental Trend			Social Trend			Total	%
	No	%		No	%			
-100 < RGD ≤ -50	12	2.5	Negative	5	1	Negative	17	3.25
-50 <RGD ≤ -5	145	27.5	Negative	25	4.5	Negative	170	32.25
-5 < RGD ≤ -2.5	71	13.5	Negative	15	3	Negative	86	16.5
Total negative materially distorted	**228**	**43**	**Negative**	**45**	**8.5**	**Negative**	**273**	**52**
2.5<RGD≤ 25	88	16.5	Positive	84	16	Positive	172	32.5
RGD ›25	10	2	Positive	12	2.5	Positive	22	4
Total positive materially distorted	**98**	**18.5**	**Positive**	**96**	**18**	**Positive**	**194**	**37**
Total materially distorted graphs	**326**	**62**		**141**	**26.5**		**467**	**88.5**
Total non-materially distorted graphs	**41**	**8**		**20**	**4**		**61**	**11.5**
Total time-series graphs							**528**	**100**

Table 59: Favourable and unfavourable graph distortions by environmental and social domain

	Environmental	%	Social	%	Total
Favourable distortions					
Good news graphs	53	10	87	16.5	140
Bad news graphs	215	40.5	30	5.5	245
Total favourable distortions	**268**	**51**	**117**	**22**	**385**
Unfavourable distortions					
Good news graphs	16	3	17	3	33
Bad news graphs	42	8	7	1.5	49
Total unfavourable distortions	**58**	**11**	**24**	**4.5**	**82**
No distortions					
Good news graphs	0	0	16	3	16
Bad news graphs	41	8	4	1	45
Total no distortions	**41**	**8**	**20**	**4**	**61**
Total	**367**	**69.5**	**161**	**30.5**	**528**

7.2.3 Favourable and unfavourable graphical measurement distortion by both sectors

Overall, both high and low sensitive sectors employed a higher number of favourable distortions than they did unfavourable distortions. As expected, the high sensitive sectors more frequently used favourable rather than unfavourable distortions: 50% (approximately 7.5 units per company) favourably and 5.5% (or 1 unit per company) unfavourably materially distorted graphs compared to 22% favourable (3.5 units per company) and 10% unfavourable (or 1.5 units per company) in the low sensitive sectors. This consisted of 34% favourable (bad news topics) and 16.5% favourable (good news topics) compared to 3% unfavourable (bad news topics) and 2.5% unfavourable (good news topics) in the high sensitive sectors. In contrast, favourably bad and good news distorted topics accounted for 12.5% and approximately 10% compared to 6% unfavourably distorted (bad news topics) and 4% (good news topics) in the low sensitive sectors.

There were 50 graphs in the high sensitive sectors and 11 graphs in the low sensitive sectors that were not materially distorted. High sensitive sectors employed a ratio of approximately 9:1 (favourable to unfavourable) compared with approximately 2:1 (favourable to unfavourable) in the low sensitive sectors. This shows that although high sensitive sectors employed bad news topics, they were used as impression management tools whereby bad news environmental and social topics were understated in order to indicate improving corporate environmental and social performance. This is strongly consistent with the view that by selecting topics and trends, companies are employing their reporting discretion to present a favourable impression of themselves to their stakeholders (Jones, 2011). This also concurred with Cho et al. (2012a) study, which found that organisations exposed to strong external pressures and visible environmental issues are more likely to increase disclosure of favourable corporate performance to improve their social legitimacy. It is also incompatible

with most GRI principles: completeness, transparency, reliability and balance. Hence, these distorted graphs around bad news topics may not undermine the company's reputation and may reinforce the credibility of their stand-alone sustainability reports, whilst improving compliance with the GRI requirements.

Additionally, within the high sensitive sectors, almost all sectors presented a higher number of favourably materially distorted graphs that they did unfavourably distorted ones. For example, chemical companies used almost 6 times as many favourable distortions as unfavourable ones (11% favourably and 1.5% unfavourably distorted graphs). Similarly, the energy companies used eight times as many favourable graph distortions as unfavourable ones (22.5% favourable and 3% unfavourable materially distorted graphs). The automotive companies used eight and half times as many favourable graph distortions (9.5% favourable and 1% unfavourable distorted graphs). The mining companies used 7.5% favourable and 0% unfavorable graph distortions.

In contrast, unexpectedly, the financial services and telecommunications sectors more frequently used favourable graph distortions than unfavourable distortions. The financial services and telecommunications companies used three times as many favourable graph distortions in comparison with unfavourable ones (approximately 11.5% favourable and 4.5% unfavourable). In contrast, the media and retail companies were relatively reluctant to use favourably distorted graphs: 1.5% (favourable) and 2% (unfavourable) compared to 1% (favourable) and 0.5% (unfavourable) materially distorted graphs within the media companies.

Overall, the result concurred with present theoretical framework and Jones's (2011) study. This suggests that high sensitive companies may be trying to show their environmental and social credentials and legitimise their activities. This is also consistent with a self-serving

managerial agenda rather than with the notion that firms are trying to be truly accountable to stakeholders.

These findings indicate that there is a self-serving motivation for graph usage and design choices by preparers (Beattie et al., 2008). A possible outcome of such impression management behaviour is that the message conveyed is not neutral and unbiased, and may be used to enhance the effective communication of messages. It may be designed to legitimise management's actions and convince stakeholders that the company is being run in line with the social norms and values of the society. This also supports Boiral's (2013) study which has questioned the transparency of the GRI guidelines reporting application level (A and A+) in the context of pictures/photographs. It also concurs with Cho et al. (2010) that companies overwhelmingly preferred to portray favourable than unfavourable environmental and social performance of the company. Hence, the impression management of graphs conflicts with a commonly expressed purpose of accounting, which is to present company performance in a neutral, unbiased manner. It also conflicts with the GRI guidelines that the stand-alone sustainability reports should reflect both positive and negative aspects of the organisation's performance in order to allow a reasoned assessment of the overall performance.

Table 60: Favourable and unfavourable graph distortions between sectors by numbers

Sector	Bad fav decreasing	Bad unfav decreasing	Bad fav increasing	Bad unfav increasing	Good fav decreasing	Good unfav decreasing	Good fav increasing	Good unfav increasing	Total fav	Total unfav	No distortions	Total
	Distortions	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**None**	
High sensitive sectors												
Chemical	27	0	1	5	5	1	25	2	58	8	19	85
Energy	79	7	13	4	3	1	25	3	120	15	26	161
Automotives	28	1	3	0	0	5	20	0	51	6	1	58
Mining	20	0	9	0	0	0	10	0	39	0	4	43
Total	**154**	**8**	**26**	**9**	**8**	**7**	**80**	**5**	**268**	**29**	**50**	**347**
Low sensitive sectors												
Financial services	22	8	4	1	6	4	28	10	60	23	11	94
Telecommunications	23	5	7	4	2	4	12	2	44	15	0	59
Media	5	0	0	4	0	0	0	0	5	4	0	9
Retail	4	0	0	10	0	1	4	0	8	11	0	19
Total	**54**	**13**	**11**	**19**	**8**	**9**	**44**	**12**	**117**	**53**	**11**	**181**
Total high and low sensitive sectors	**208**	**21**	**37**	**28**	**16**	**16**	**124**	**17**	**385**	**82**	**61**	**528**
*** Bad fav: Bad favourable Bad unfav: Bad unfavourable Good fav: Good favourable Good unfav: Good unfavourable**												

Table 61: Favourable and unfavourable graph distortions between sectors by mean

Sector	Bad fav decreasing	Bad unfav decreasing	Bad fav increasing	Bad unfav increasing	Good fav decreasing	Good unfav decreasing	Good fav increasing	Good unfav increasing	Total fav	Total unfav	No distortions
	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	None
High sensitive sectors											
Chemical	3	0	0.10	0.5	0.5	0.10	3	0.25	6.5	1	2
Energy	4.5	0.5	0.5	0.25	0.15	0.05	1.50	0.15	6.5	1	1.5
Automotives	9.5	0.5	1	0	0	1.75	6.50	0	17	2	0.5
Mining	4	0	2	0	0	0	2	0	8	0	1
Total	**38.5**	**2**	**6.5**	**2.5**	**2**	**1.75**	**20**	**1.5**	**67**	**7.5**	**12.5**
Low sensitive sectors											
Financial services	1	0.5	0.25	0.05	0.25	0.25	1.3	0.5	3	1	0.50
Telecommunications	3	0.5	1	0.5	0.25	0.5	1.5	0.25	5.5	2	0
Media	2.5	0	0	2	0	0	0	0	2.5	2	0
Retail	1.5	0	0	3.5	0	0.25	1.5	0	2.5	3.5	0
Total	**13.5**	**3.5**	**2.75**	**5**	**2**	**2.25**	**11**	**3**	**29.5**	**13.5**	**3**
Total high and low sensitive sectors	**26**	**2.5**	**4.5**	**3.5**	**2**	**2**	**15.5**	**2**	**48**	**10.5**	**7.5**
*** Bad fav= Bad favourable Bad unfav= Bad unfavourable**											

The next section discusses the impression management of graph distortions between the high and the low sensitive sectors across the environmental and social domain.

7.2.4 Favourable and unfavourable graphical measurement distortion in environmental graphs by high and low sensitive sectors

The distribution of favourable versus unfavourable environmental graph distortions is shown between the high and low sensitive sectors in table 62 and table 63. As expected, the high sensitive sectors showed a significant preference for favourable environmental graph distortions, compared to unfavourable ones, than the low sensitive sectors: 36.5% (favourable) and 4% (unfavourable) compared to 14.5% (favourable) and 7% (unfavourable) environmental distorted graphs in the low sensitive sectors. The high sensitive companies used approximately 5% (favourable bad news topics) and approximately 10% (favourable good news topics) compared to 1% (favourable bad news topics) and approximately 7% to (favourable good news topics) in the low sensitive sectors.

Furthermore, almost all sectors in the high sensitive sectors used a higher number of favourable environmental graph distortions than unfavourable ones. For example, in the chemical sector, there were six times as many favourable environmental graph distortions than there were unfavourable ones (8% favourable and 1.5% unfavourable). Similarly, the energy companies used eight and half times as many favourable environmental graph distortions as unfavourable ones (17% favourable and 2% unfavourable). The automotive companies presented six times as many favourable environmental graph distortions as unfavourable distortions (7% favourable and 1% unfavourable). The mining companies used 4% favourable and 0% unfavourable environmental graph distortions.

In contrast and unexpectedly, the telecommunications and financial services sectors used a higher number of favourable environmental graph distortions than they did unfavourable ones. For example, the financial services companies used three times as many favourable rather than unfavourable environmental graph distortions (6% favourable and 2%

unfavourable). They have more in common with mining companies in terms of their usage of environmental graph distortions.

Similarly, the telecommunications companies used almost three times as many favourable environmental graph distortions as unfavourable ones (6.5% favourable and 2.5% unfavourable). The media companies used 1% favourable and 0.5% unfavourable environmental graph distortions. Whereas the retail companies used fewer favourable rather than unfavourable environmental graph distortions (1% favourable and 2% unfavourable materially distorted environmental graphs).

Overall, the result concurred with Jones's (2011) study, which found that both high and low sensitive sectors used significantly more favourable rather than unfavourable environmental graph distortions. This is particularly true for all high sensitive sectors and unexpectedly consistent with three of the low sensitive sectors (financial Services, telecommunications and media) in the present study. Overall, these results are consistent with the impression management framework.

Table 62: Environmental favourable and unfavourable distortions by numbers

Sector	Bad fav decreasing	Bad unfav decreasing	Bad fav increasing	Bad unfav increasing	Good fav decreasing	Good unfav decreasing	Good fav increasing	Good unfav increasing	Total fav	Total unfav	No distortions	Total
	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	None	
High sensitive sectors												
Environmental												
Chemical	24	0	1	4	4	1	13	2	42	7	16	65
Energy	72	5	12	3	1	1	5	1	90	10	22	122
Automotives	23	1	3	0	0	3	12	0	38	4	1	43
Mining	11	0	9	0	0	0	2	0	22	0	0	22
Total	**130**	**6**	**25**	**7**	**5**	**5**	**32**	**3**	**192**	**21**	**39**	**252**
Low sensitive sectors												
Financial services	20	7	4	1	0	0	7	2	31	10	2	43
Telecommunications	20	4	7	4	1	4	6	1	34	13	0	47
Media	5	0	0	4	0	0	0	0	5	4	0	9
Retail	4	0	0	9	0	1	2	0	6	10	0	16
Total	**49**	**11**	**11**	**18**	**1**	**5**	**15**	**3**	**76**	**37**	**2**	**115**
Total high and low sensitive sectors	**179**	**17**	**36**	**25**	**6**	**10**	**47**	**6**	**268**	**58**	**41**	**367 (see Table 57)**

Table 63: Environmental favourable and unfavourable graph distortions by mean

Sector	Bad fav decreasing	Bad unfav decreasing	Bad fav increasing	Bad unfav increasing	Good fav decreasing	Good unfav decreasing	Good fav increasing	Good unfav increasing	Total fav	Total unfav	No distortions
	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	Distortions	None
High sensitive sectors											
Environmental											
Chemical	2.5	0	0.10	0.5	0.5	0.10	1.5	0.25	4.5	0.75	2
Energy	4	0.25	0.5	0.15	0.05	0.05	0.25	0.05	5	0.5	1.25
Automotives	7.5	0.25	1	0	0	1	4	0	12.5	1.25	0.25
Mining	2	0	2	0	0	0	0.50	0	4.5	0	0
Total	**32.5**	**1.5**	**6.25**	**1.75**	**1.25**	**1.25**	**8**	**0.75**	**48**	**5.25**	**9.5**
Low sensitive sectors											
Financial services	1	0.25	0.25	0.05	0	0	0.25	0.10	1.5	0.5	0.10
Telecommunications	2.5	0.50	1	0.5	0.25	0.5	1	0.125	4.25	1.5	0
Media	2.5	0	0	2	0	0	0	0	2.5	2	0
Retail	1.25	0	0	3	0	0.25	0.5	0	2	3.5	0
Total	**12.25**	**2.75**	**2.75**	**4.5**	**0.25**	**1.25**	**4**	**1**	**19**	**9.25**	**0.5**
Total high and low sensitive sectors	**22.5**	**2**	**4.5**	**3**	**1**	**1.25**	**6**	**1**	**33.5**	**7.25**	**5**
*** Bad fav= Bad favourable Bad unfav= Bad unfavourable**											

7.2.5 Favourable and unfavourable social graph distortions by high and low sensitive sectors

The distribution of favourable and unfavourable social graph distortions is shown between the high and low sensitive sectors in tables 64. As anticipated, the high sensitive sectors used significantly more favourable social graph distortions than unfavourable ones compared to the low sensitive sectors: 14% (favourable) and 1.5% (unfavourable) compared to 8% (favourable) and 3% (unfavourable) distorted graphs in the low sensitive sectors. There were 11 social graphs in the high sensitive sectors and 8 social graphs in the low sensitive sectors that were not materially distorted. All companies in the high sensitive sectors used more favourably distorted social graphs than they did unfavourably distorted ones. For example, chemical companies produced seven times as many favourable social graph distortions than unfavourably distorted ones (3% favourable and 0.5% unfavourable). The energy companies used almost six times as many favourable social graph distortions as unfavourable ones (5.5% favourable and approximately 1% unfavourable). The automotive companies also used approximately five times as many favourable social graph distortions (2.5% favourable and 0.5% unfavourable). The mining companies used 32% favourably distorted and 0% unfavourably materially distorted social graphs.

In contrast and contrary to expectations, the financial services and telecommunications sectors produced a higher number of favourable social graph distortions in comparison with unfavourable distortions. The financial services companies produced a ratio of 2:1 (favourably to unfavourably) distorted graphs. The telecommunications companies produced a ratio of 5:1 (favourable to

unfavourable) social graph distortions. In this regard, they have much in common with the energy and automotive sectors.

As anticipated, neither the retailer nor the media sectors showed a keen preference for the use of favourable over unfavourable social graph distortions. The retail companies produced a ratio of 2:1 (favourable to unfavourable) of distorted graphs. Whereas, there was no evidence of social graph distortions in the media companies.

Overall, results suggest that high sensitive companies have a preference towards the use of favourably distorted social graphs in the context of good and bad news topics over unfavourably distorted ones. This shows that high sensitive companies not only selectively present information, but also systematically bias their social performance results. Unexpectedly, two of the low sensitive sectors (financial service and the telecommunication) have also used reporting practices in line with the high sensitive sectors in the context of impression management of graphs which is contradictory to the legitimacy theory but support impression management frameworks. Overall, high sensitive sectors including low sensitive sectors (financial service and telecommunication) companies are missing the opportunity to employ graphs accurately and enhance the effective communication of social disclosure. Rather than enhancing corporate accountability and transparency, they are undermining it and misrepresenting the social profile of the company.

Table 64: Social graph favourable and unfavourable graph distortions by numbers

Sector	Bad fav decreasing	Bad unfav decreasing	Bad fav increasing	Bad unfav increasing	Good fav decreasing	Good unfav decreasing	Good fav increasing	Good unfav increasing	Total fav	Total unfav	No distortions	Total
	Distortions	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**None**	
High sensitive sectors												
Social domains												
Chemical	3	0	0	1	1	0	12	0	15	2	3	20
Energy	7	2	1	1	2	0	20	2	30	5	4	39
Automotives	5	0	0	0	0	2	8	0	13	2	0	15
Mining	9	0	0	0	0	0	8	0	17	0	4	21
Total	**24**	**2**	**1**	**2**	**3**	**2**	**48**	**2**	**75**	**9**	**11**	**95**
Low sensitive sectors												
Financial services	2	1	0	0	6	4	21	8	29	13	9	51
Telecommunications	3	1	0	0	1	0	6	1	10	2	0	12
Media	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	1	0	0	2	0	2	1	0	3
Total	**5**	**2**	**0**	**1**	**7**	**4**	**29**	**9**	**41**	**16**	**9**	**66**
Total high and low sensitive sectors	**29**	**4**	**1**	**3**	**10**	**6**	**77**	**11**	**116**	**25**	**20**	**161 (see Table 57)**
*** Bad fav= Bad favourable Bad unfav= Bad unfavourable**												

Table 65: Social graph favourable and unfavourable distortions by mean

Sector	Bad fav decreasing	Bad unfav decreasing	Bad fav increasing	Bad unfav increasing	Good fav decreasing	Good unfav decreasing	Good fav increasing	Good unfav increasing	Total fav	Total unfav	No distortions
	Distortions	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**Distortions**	**None**
High sensitive sectors											
Social domains											
Chemical	0.25	0	0	0.10	0.10	0	1.5	0	1.5	0.25	0.5
Energy	0.5	0.10	0.05	0.05	0.10	0	1	0.10	1.5	0.5	0.25
Automotives	1.5	0	0	0	0	0.75	2.5	0	4.5	0.75	0
Mining	2	0	0	0	0	0	1.5	0	3.5	0	0.75
Total	**6**	**0.5**	**0.25**	**0.5**	**0.75**	**0.50**	**12**	**0.50**	**19**	**2.5**	**3**
Low sensitive sectors											
Financial services	0.10	0.05	0	0	0.25	0.25	1	0.5	1.5	0.5	0.5
Telecommunications	0.50	0.25	0	0	0.25	0	0.75	0.25	1.25	0.25	0
Media	0	0	0	0	0	0	0	0	0	0	0
Retail	0	0	0	0.5	0	0	0.75	0	0.75	0.5	0
Total	**1.25**	**0.50**	**0**	**0.5**	**2**	**1**	**7.25**	**2.25**	**10**	**4**	**2**
Total high and low sensitive sectors	**3.5**	**0.5**	**0.25**	**0.5**	**1.25**	**0.75**	**9.5**	**1.5**	**14.5**	**3**	**2.5**

7.3 Summary

	Summary findings from impression management of graphs in all companies
Graphical presentation of good and bad news graphs	
Graphical presentation of good and bad news across all companies	There were 528 multiple year data graphs (column and bar) where measurement was possible. With regard to the analyses of the impression management of good and bad news topics, companies overwhelmingly preferred to select a combination of topics and trends which together presented the company performance favourably (408 or 77.5%) rather than unfavorably presented trends (120 cases or 22.5%) as shown in Table 51.
Graphical presentation of good and bad news in environmental and social graphs across all companies	The trends were higher for social as opposed to environmental favourable trends: 87% compared to 73% favourable environmental trends as shown in Table 52.
Graphical presentation of good and bad news by high and low sensitive sectors	High sensitive sectors used 81% favourable compared to 70% in the low sensitive sectors. Almost all high sensitive sectors specifically (automotives and chemical) used more favourable than unfavourable trends. In contrast, favourable trends graphs were particularly common in the two low sensitive sectors (financial services and telecommunications sectors) as shown in Table 53.
Graphical presentation of good and bad news in environmental domain by high and low sensitive sectors	Expectedly, the high sensitive sectors used 79% favourable and 21% unfavourable compared to 68% favourable and 32% unfavourable in the low sensitive sectors. Automotives, chemical and energy in the high sensitive sectors and financial Services and telecommunications sectors in the low sensitive sectors used substantially more favourable as opposed to unfavourable environmental graph trends (see, Table 54).
Graphical presentation of good and bad news in social by high and low sensitive sectors	Table 55 shows favourable and unfavourable social graph trends between high and low sensitive sectors. As expected, high sensitive sectors used 87.5% favourable and 12.5% unfavourable compared to 80% favourable and 20% unfavorable in the low sensitive sectors. Almost all sectors in the high sensitive sectors and financial services and telecommunications sectors in the low sensitive sectors used substantially more favourable as opposed to unfavourable social graph trends.
Impression management in graphs through measurement distortion	
Favourable and unfavourable graphical measurement distortion across all companies	There were 88.5% graphs that were materially distorted: 51.5% (negatively materially distorted) and 36.5% (positive materially distorted), and these were all in the company's favour as shown in Table 56.
Favourable and unfavourable measurement distortion in environmental and social graphs across all companies	Companies produced almost five times as many favourable environmental and social distorted graphs as unfavourable distorted graph trends: approximately 51% (favourable), 11% (unfavourable) compared to 22% (favourable) and 4.5% (unfavourable) material distorted social graphs as shown in Table 57.
Favourable and unfavourable graphical measurement distortion by high and low sensitive sectors.	As expected, high sensitive sectors used approximately (ratio 9:1 favourable to unfavourable) compared to approximately (ratio 2:1 favourable to unfavourable) in the low sensitive sectors. The energy, automotive and chemical sectors in the high sensitive sectors and the financial services and telecommunications sectors in the low sensitive sectors used more favourable as opposed to unfavourable measurement distortions.
Favourable and unfavourable graphical measurement distortion in environmental graphs by high and low sensitive sectors	High sensitive sectors devoted 36.5% (favourable) and 4% (unfavourable) compared to 14.5% (favourable) and 7% (unfavourable) environmental distorted graphs in the low sensitive sectors. Again, almost all sectors specifically (energy, chemical and automotives) in the high sensitive sectors and financial services and telecommunications in the low sensitive sectors used more favourable as opposed to unfavourable environmental graph distortions (see, Table 61-62).
Favourable and unfavourable graphical measurement distortion in social graphs by high and low sensitive sectors	High sensitive sectors used 14% (favourable) and 1.5% (unfavourable) compared to 8% (favourable) and 3% (unfavourable) in the low sensitive sectors. Almost all sectors in the high sensitive sectors and specifically two sectors in the low sensitive sectors (financial services and telecommunications sectors) showed a preference for favourable over unfavourable social graph distortions.

This thesis contributes to and extends prior work by Jones (2011), Hrasky (2012) and Cho et al. (2012a; b) in various ways.

Firstly, the prior studies were primarily empirical works with little theoretical discussion. The present thesis provides grounding in theories of impression management and legitimacy. Secondly, this thesis is based on GRI compliant stand-alone sustainability reports focusing on worldwide countries, whereas prior studies examined non-GRI complaint stand-alone sustainability reports focusing on the UK (Jones, 2011), USA (Cho et al., 2012a), UK, USA, France, Germany, Italy and Spain (Cho et al. 2012b). Thirdly, it analyses reports dated 2014. The prior work on graphs was based on 2005 reports (Jones, 2011) and Cho et al. (2012a; 2012b) on 2006. Fourthly, this thesis advances work on sector sensitivity and uses a little-known measure of graph distortion known as RGDI index, in contrast to the more well-known GDI Graph Discrepancy Index used in prior work.

In summary, the key findings are: (i) companies overwhelmingly preferred to select a combination of topics and trends including graph distortions which together presented the company performance favourably; (ii) the trends were higher for social than environmental favourable trends and higher for environmental as opposed to social favourable graph distortions; (iii) high sensitive companies used a higher proportion of favourable as opposed to unfavourable graph topics/trends and graph distortions than low sensitive companies; (iv) the chemical and energy companies in the high sensitive and the financial Services and telecommunications companies in the low sensitive sectors presented a higher proportion of favourable topics/trends and graph distortions than they did unfavourable ones (v) the overall findings support visual impression management and legitimacy theories which argues that graphs are employed for impression management purposes in order to maintain

legitimacy within the society (vi) there was only modest support for the idea that high sensitive companies would be keener than low sensitive sectors to legitimate their existence by engaging more in impression management of graphs.

Collectively, the finding from chapter six and seven show that management chooses to use graphs widely in GRI-compliant stand-alone sustainability reports. The graph usage is shown to be in its infancy with very little homogeneity in its use whether this be in the number of year's graphs or in the topics chosen including colour chosen. The evidence for impression management of graphs is significantly strong. Management graph trend lines which present good news. In addition, the graphs themselves when drawn are distorted more favourably than unfavourably. There was evidence of impression management (i.e. more graphs, more favourable trends and more favourable distortions) by high impact companies, but this was also significant for financial and telecommunication sectors as against other low sensitive companies. Overall, these findings are consistent with the idea that primarily companies are producing graphs to influence the attitude s and perceptions of their stakeholders rather than being exercises accountability (Cooper & Owen, 2007) cited in Jones (2011) study. Companies not only systematically selectively present information, but also systematically bias their results. Companies are thereby missing the opportunity to use graphs properly and enhance the communication effectiveness of environmental and social disclosure. Rather than enhancing corporate accountability they are undermining it and misrepresenting the environmental and social profile of the company.

Chapter Eight: Analysis of the authorship of stand-alone sustainability reports

To supplement the archival work on stand-alone sustainability reports of the previous chapter, this chapter reports the results of interviews regarding the authorship of stand-alone sustainability reports.

The examination of existing literature suggests some significant gaps in our knowledge of the preparation of corporate reports. Most previous studies have made deductions about preparers' attitudes from the published reports rather than gathering data from the preparers themselves. This suggests the first set of research questions:

1. How are sustainability reports prepared within GRI-compliant companies?

- Who is responsible for the preparation of SASRs?
- Who authorises final publication?
- How many people are involved in the preparation of SASRs?
- How long does it take to prepare SASRs?
- How much does it cost to prepare SASRs?
- Why do companies use the GRI guidelines and how useful are these guidelines?
- Why does management choose to use visuals, particularly graphs and colours?
- Who is responsible for insertions of visuals?
- How are visuals selected and prepared?
- How do companies use blank space in SASRs?

Given the extensive academic literature on graph manipulations, we would expect preparers to be aware of the general research findings in the area and hence would take the general issue of manipulation into consideration when preparing graphs and charts for SASRs. However, there is no actual research evidence to support this expectation. This suggests the second research question:

2. Are preparers aware of visual impression management through the use of graphs (including choice of colours)?

- ❖ Are preparers aware of the literature on graph distortion in corporate reports and on the selectivity of good and bad news graphs?

This study extends Farneti & Guthrie's (2009) work by focussing on the process and preparation of GRI-compliant standalone sustainability reports by large private organisations. It also investigates the process of visual presentation and the people involved in the decision-making of visuals in GRI-compliant stand-alone sustainability reports which have been neglected by Farneti & Guthrie (2009) study. This work is a preliminary investigation in this area.

The present study conducted semi-structured interviews with six key preparers in six GRI-compliant companies: three from the mining sector, one from the energy sector (high sensitive sector) and two from the financial Services sector (low sensitive sector).

The study approached 69 companies through emails, personal contacts and telephone but one of the main constraints on the number of people interviewed was accessibility given the busy schedule of the interviewees.

To help overcome some of these obstacles, several emails were sent to the interviewees and an alternative proposal such as the skype interviews were offered, which in turn offered interviewees the time and flexibility to be interviewed.

The key findings were that the preparation process of stand-alone sustainability reports is complex and costly. Companies and their CEOs are aware of the power of visual communication, graphs and colour. For example, the CEO will go through each visual and ensure that it is aligned with the overall company objectives. The CEO is also engaged in the selection of visuals. The external designers are the key people engaged in the overall selection of the design of the documents. They micro-manage the process and selection of graphs.

The interviewees also stated that they use graphs because they are easily remembered; they can convey a message that can be accessible to a wide range of audiences. Graphs simplify complex data and make it more user-friendly and memorable. It was also revealed that internal and external stakeholders demand the use of graphs. The majority of interviewees also revealed that organisations are very selective when it comes to the choice of colours in graphs. They revealed that the use of colours in graphs make the graphs more visually appealing, enable effective communication and can be remembered more easily.

Additionally, the interviewees were not aware of the literatures on graph manipulations. Most of the interviewees revealed that they do not engage in the impression management of graphs but they do acknowledge that some large organisations may engage in such practices, and therefore they recommended a compulsory graph guideline.

Furthermore, the research questions and methods were discussed in chapter one under section ‘1.6’ and chapter four under section ‘4.3.3’. This section is divided into (i) authorship of stand-alone sustainability reports (ii) GRI guidelines (iii) numbers (iv) narratives (v) visuals (specifically graphs and colours) (vi) mixed materials and (vii) blank space followed by (viii) summary.

8.1 Process and preparation of the stand-alone sustainability reports

The first purpose of the semi-structured interviews was to gain insight into the process and preparation. Who is responsible for the preparation of the stand-alone sustainability reports? Who authorises the final publications?

8.1.1 Preparation

Most of the interviewees stated that there are several departments involved in the process of preparing stand-alone sustainability reports, organised under topics such as sustainable corporate management (risk management and human rights), supplier management (e.g.; minimising risk), employees (health and safety, training and further education, diversity) corporate citizenship and environmental protections (energy, CO2 emissions, waste, water usage). This involves collecting the data from all the people within the organisation. The main departments engaged in the process of the stand-alone sustainability reports were Human Resources, Supply Chain, Legal and Ethics, Environmental teams, Logistics, Marketing, Safety and Operations, Security teams and Sustainability and Communications departments. However, all interviewees stressed that the Communications department and the external designers were engaged extensively in the make-up of the overall documents. The Communications department was responsible for the collection of the data and putting all the environmental, social and economic information together and making the key decisions as to what should be included in the first draft of the stand-alone sustainability reports. The Communications department would then work closely with the external designers in the process of the selection of the designs. Interestingly, not one of the organisations indicated that the Accounting department was involved extensively in the process of the stand-alone sustainability reports:

‘‘***We work very closely together, it is a company report, it is a corporate social responsibility report so we have active involvements from the main departments to whoever is responsible for the collection of the data. However, the accounting department is not involved extensively in the process of the stand-alone sustainability reports as we do not report much on numbers, the focus is more towards social and environmental reporting.’’ (B2).***

Another interviewee suggested that **“*the stand-alone sustainability report is all about telling a story, we don’t report a lot on numbers, it is mainly reporting extensively on social and environmental issues, the accounting department mainly provides information on economic dimensions.” (B1)*.**

Thus, the findings indicate that the role of the Accounting department was to provide some data relevant to the economic domains but most importantly the Accounting department’s main contribution was to authorise the cost associated with the stand-alone sustainability reports.

“Yes, the accounting department is involved mostly around sustainability development pay, they verify the sustainability development pay and “saying” ok yes we agree and you can print this. I have to show documentations for each project in order for them to pay. In the rest of the report, they are not involved as we don’t report much on the financial performance in stand-alone sustainability reports.” (B3).

As a result, the interview findings of the present study are consistent with Farneti & Guthrie’s (2009) study that the stand-alone sustainability reports were prepared by the environmental units and that neither the accounting nor the finance teams were involved.

8.1.2 Authorisation

With regards to the authorisation of the stand-alone sustainability reports within the organisation, the interviewees stated that the stand-alone sustainability reports go through multiple stages of approval before publication. For example, most of the interviewees indicated that the documents are authorised by the CEO of the company followed by the Chairman and the external auditors. ***"It is the CEO of the organisation and the Chairman that both sign off the reports. The external auditor also signs off the document as the assurance provider." (B1*)**.

Some interviewees also stated that the CEO and the Chairman spend a considerable amount of time in reviewing the documents. They provide suggestions and feedback and then the documents are sent back to the Communications team for some further improvements. When the CEO and the Chairman are satisfied with the content and structure of the report including the designs, then the documents are sent for printing.

***''The executive team authorise the final document, they review the document and provide feedback, and we work on the feedback gathered from them including the external assurance and then send the document for printings.'' (B4*)**.

Thus, it became apparent that the stand-alone sustainability reports are regarded as an important document by the organisations, in line with studies by Cerin (2002) and Unerman & O'Dwyer (2007) indicating that many companies devote a considerable amount of time and effort in publishing their extended performance information including environmental and social information in stand-alone sustainability reports.

8.1.3 Timescale

The present interview study findings revealed that the preparation of the stand-alone sustainability reports is very lengthy; organisations spend a minimum of four months to a maximum of one year in the preparation of the stand-alone sustainability reports. The majority of the interviewees claimed that they spend at least six months in the preparation of the stand-alone sustainability reports. **‘‘*Well, we start with some preparation activities in the fall, maybe myself and our team and then it kicks out in January with the full group of people and then it takes from January to July; it takes approximately six months.’’ (B4*).** The interviewees also stated that during this time they work mainly on the stand-alone sustainability reports but also devote some time to other responsibilities. ‘‘***We do other things too in between, but our main focus is on collecting data for stand-alone sustainability reports. We reach out to people and outsource work to them to ensure we meet the deadlines.” (B4).***

8.1.4 Number of people

The interviewees indicated that there are a minimum of 25 to 30 employees and a maximum of up to 500 employees involved in the production of the stand-alone sustainability reports. Most of these employees were involved in the materiality process: defining the environmental and social topics that matter most to the business and stakeholders in their departments including the data collection phases. The employees in the Communications department were involved in the planning stage and were responsible primarily for putting the environmental, social and economic information together in stand-alone sustainability reports.

***"I would say particularly with the materiality process, 25 people but maybe 5 or 6 primarily. But in terms of the data collections, you think about all the data that you need to collect. For example, energy, water, volunteer hours, and stories of volunteers in the community. There are a lot of people that I have to reach out to over the year to actually assemble the information and the stories in the report. The CEO, the COO, our engineering groups." (B3*)**.

One of the interviewees stated that they have to reach out to people internationally during the data collection phase. ***''We collect the data from approximately 500 colleagues in at least 17 countries.'' (B5).***

8.1.5 Cost

The issue of the cost related to the publication of the stand-alone sustainability is also unknown to date in the literature. The present study investigates this and finds that the publications of the stand-alone sustainability report is very costly, ranging from $100,000 to $500,000. This includes the cost of production, design and printing.

"Well, there are a number of factors that go into the stand-alone sustainability reports, to be honest, I don't have the exact figures, but I think it is approximately $0.5 million for the production and design of the reports excluding our time." **(B2).**

The interviewees demonstrated two main relevant and recent factors that have contributed towards the cost of the stand-alone sustainability reports 'The GRI guidelines' and the 'multiple publications' of the stand-alone sustainability reports. For example, one interviewee stated that "***This is because this year we decided to***

publish our online report, and also a fully functional pdf and in addition to that, we are also doing a summary stand-alone sustainability report. (B2)". Another interviewee stated that ***''in a normal year, we would spend around $100000-$110000, but in 2014, we spent $200000 because of the materiality processes.'' (B3*)**.

As discussed in chapter one '1.2', the GRI 'A' and 'A+' reports expect organisations to report on at least 55+ indicators. These include (i) full disclosure on all core indicators (ii) full disclosure on any applicable sector supplements. This appears to show that the GRI guidelines require detailed information in the stand-alone sustainability reports and therefore the costs of the stand-alone sustainability reports have increased dramatically.

8.1.6 Design

With regards to the design of the stand-alone sustainability reports, the data for the stand-alone sustainability report is collected internally but the design of the reports is outsourced to external designers. The Communication departments work alongside external designers during the design process. ''***We do it externally, we contract a third party that has worked with us over the past few years, and they are in charge of proposing a design model, helping us in terms of infographic, so yeah we don't do it internally in house, we have ideas but we work closely in order for them to work on our ideas." (B2).***

The interviewees were also asked whether the external designers make the key decisions in the design stage of the stand-alone sustainability reports. The interviewees stated that the organisations get suggestions from the external designers and use these to make their final decisions. This appears to show that the external

designers are the key people engaged in the overall selection of the designs of the documents.

8.2 The GRI guidelines

There has been an overwhelming amount of literature on the usefulness and drawbacks of the GRI guidelines as discussed in chapter one '1.2' and chapter two '2.13'. On one hand, studies suggest that the GRI guidelines include several indicators and that these indicators are regarded to strengthen the rigor and transparency of the stand-alone sustainability reporting to stakeholders and may also assist users to better navigate information (Sherman, 2012). On the other hand, it has been suggested that the information in line with the GRI guidelines tends to reflect business interests rather than a genuine concern for accountability (Adams & Zutshi, 2004; Laufer, 2003). A more recent paper by Boiral (2013) has also questioned the transparency of environmental and social information, specifically visuals in the context of the GRI guidelines.

The findings of the present study on the impression management of graphs discussed in chapter Seven '7.3' also supports current study theoretical framework and is consistent with Boiral (2013) findings. Therefore, it is important to explore 'why do companies use the GRI guidelines?' and 'how useful are the GRI guidelines?'

The findings from the interviewees provide three differing accounts in terms of reasons for using the GRI guidelines. Firstly, it appeared that companies use the GRI guidelines as they are the most widely used and represent the international standard for the stand-alone sustainability reports. This was more common in the Energy and the Financial Services sectors. Secondly, it appears that companies employed the

GRI guidelines as they have been in the habit of using them for a long time. ***"We use the GRI guidelines because we have been using it for nine years". (B3).***

Thirdly, the Mining sector uses the GRI guidelines as they are a member of the International Council on Mining and Metals (ICMM) who, in turn, requires them to align their stand-alone sustainability reports with the GRI guidelines.

With regards to the usefulness of the GRI guidelines, the interviewees showed that the GRI guidelines are useful as a starting point in reporting on environmental, social and economic issues. They provide an organisation with direction on how to report on environmental, social and economic factors. The guidelines have assisted them to understand what their social risks and impacts were. However, the findings also showed that the guidelines can be problematic because they include several indicators that are not relevant to their organisation. The guidelines are also open to different interpretations; the guidelines do not offer a standardised framework and require organisations to disclose detailed information. The GRI guidelines were also regarded as a very time-consuming to implement.

"*The indicators can be interpreted differently by different organisations; most organisations would use selective information tailored to meeting their objectives, the indicators are not clear of what exactly to disclose, they are very broad guidelines and open to various interpretations." (B1).*

In summary, the GRI guidelines have been regarded as useful for reporting on environmental, social and economic risks but the majority of the interviewees have suggested that there is a lot of work needed to clarify the scope and practice of the GRI guidelines. As a result, the interview findings concurred with those of previous studies, that the GRI guidelines are a camouflage for unsustainability (Moneva,

Archel, & Correa, 2006; Pettigrew, Smith, & Lenssen, 2009). Adams & Kuasirikun (2000, p. 19) also stated that the **"voluntary guidelines specifying issues that companies should report on are not solving the incompleteness problems. In fact, there is a danger that they provide organisations with a means of legitimising poor performance, allowing them to get away with omitting material impacts on issues not covered in the guidelines"**. It also provides companies with great discretion in terms of what they choose to report.

This appears to portray that the GRI guidelines are employed by the companies to resemble marketing tools aimed primarily at improving the firm's image and social legitimacy (Cho & Patten, 2007; Laufer, 2003). The lack of specific, formal national and international regulations seems to allow companies much flexibility in how they carry out their environmental and social reporting activities and allows them to use the guidelines in a biased way (Moneva et al., 2006). The interview findings also concurred with Farneti & Guthrie's (2009) study that the GRI may be perceived to represent "better practice" reporting; the expansion of the GRI framework into the public sector represents a number of challenges in relation to the scope and practice of sustainability reporting by the public agencies.

The interview findings are also in line with the present theoretical framework, that due to the problems associated with the GRI guidelines in the context of the accountability, reliability and transparency, the guidelines may be employed by the companies for impression management and legitimacy purposes. This in turn enables companies to make effective use of visuals in the GRI-compliant stand-alone sustainability reports and serve their purpose of legitimising their business operations and portray their environmental and social issues more effectively.

8.3 The content of stand-alone sustainability reports

8.3.1 Reasons for using numbers in stand-alone sustainability reports

The present study aimed to discover 'why do companies generally use fewer numbers in stand-alone sustainability reports?' which was a finding of the archival work in chapter five '5.2' and '5.2.1'. It observed that companies use fewer numbers in stand-alone sustainability reports as they are included in the annual reports and that the companies do not wish to repeat the same information again.

*"**You don't want to repeat the same information over again in the stand-alone sustainability reports that is already accessible and available in the annual reports, and for sustainability reports, it makes sense to have more data around environmental and social issues." (B2).***

The majority of the interviewees revealed that it is difficult to make the stand-alone sustainability reports interesting with the use of numbers and that the stand-alone sustainability reports are aimed towards a broader stakeholder group and not solely shareholders.

"***We have analysts that want to know the numbers but we also have the NGOs that want to understand the story, so we are trying to provide a balance by providing both but I think that companies are moving towards making the reports being more interactive, more user-friendly and interesting." (B2)***.

It also appears that the GRI guidelines require companies to use fewer numbers in stand-alone sustainability reports. ***"The GRI guidelines expect what the companies are reporting to evolve the report is mainly concerned about sustainability reporting and not financial reporting and the indicators in the GRI guidelines do***

not expect the companies to report extensively on the economic dimensions." (B4). These quotes are consistent with the findings of the Hrasky (2012) study that within the stand-alone sustainability reports, companies focus more on environmental and social issues and less on economic dimensions. They are also consistent with the present study as discussed in Chapter Six '6.2' However, it may be argued that the numbers in stand-alone sustainability reports may be used to address the sustainability issues. This was revealed by one of the interviewees, illustrating that the intangible assets are difficult to quantify but they do use numbers in stand-alone sustainability reports when reporting on the tangible value around sustainability.

"A lot of our teams have produced intangible financial values, but we haven't been able to quantify well but we do report publicly on the quantification of the tangible values that sustainability brings to the company." (B6).

8.3.2 Reasons for using narratives in stand-alone sustainability reports

Prior studies have identified a higher proportion of narratives than numbers and visual forms in annual reports (Beattie et al., 2008; Davison & Skerratt, 2007; Lee, 1994) and in stand-alone sustainability reports (Duff, 2016) and Pesci and Costa (2014), and as discussed in the present study chapter five '5.2.2'. However, to date we have no systemic knowledge of why companies use narratives in the annual reports and in stand-alone sustainability reports. The present study was therefore interested to find out 'Why companies generally use more narratives in stand-alone sustainability reports'. As observed, the interviewees revealed that they use narratives in order to assist users to understand the environmental, social and economic issues of the companies. The interviewees stressed that the inclusion of the

narratives portray the story and that the visuals make that story more interesting and memorable.

*"**Through narratives we are able to tell a story and the visuals portray that story in an effective way, in other words, it makes the story interesting and memorable." (B3).***

One interviewee has stated that "***I think because sustainability reporting is still relatively new compared to other types of financial reporting and because of the context of all the information, it has to be explained in a way that cannot be done by numbers alone."*** (B3).

This shows that companies may either use narratives in stand-alone sustainability reports in order to provide incremental useful information to improve decision-making. Or, alternatively, they may be used in providing biased information to mislead stakeholders. However, there has been overwhelming evidence which suggests that managers use discretionary information in annual reports by means of manipulating the presentations and disclosure of information in order to "distort reader's perceptions of corporate achievements" (Godfrey et al., 2003, p.96). The present study did not investigate whether the use of narratives in stand-alone sustainability reports may be used as impression management or incremental information. However, if they are used as impression management rather than incremental information purposes, the quality of the corporate social reporting will be undermined. If managers engage in impression management and if users are susceptible to it, then adverse capital misallocations may result. Thus, discretionary narrative disclosures constitute an important area of accounting research.

8.3.3 Reasons for using visuals in stand-alone sustainability reports

The majority of the interviewees thought that visuals make the story more appealing and memorable and that they are also regarded as user-friendly. The visuals also transcend language and can be used internationally. It was also noted by the majority of the interviewees that users do not read the stand-alone sustainability reports and that the visuals help the users to get a feel for the contents and pick up the key messages.

"We believe that people don't have time to read sustainability reports, they flick through the reports, and visuals are good tools for serving this purpose." (B4).

"We are trying to appeal to external demands, so in the past, we came to know that reports were long and the reports included more text, the reports were not interesting enough, there was significant use of numbers. You compare our reports from this year to last year, there are significantly more visuals partially because external stakeholders provided us with the feedback that the reports are too dull and boring, we need something more interesting and we are working to meet those demands." (B2).

This is consistent with prior studies such as Lee and Tweedie (1975) documenting that surveys of shareholders' use of annual reports consistently indicate that, although the annual report is a primary source, it is not read thoroughly. The stand-alone sustainability reports are also produced on a voluntary basis, there is a suggestion that they may not be read thoroughly. In these circumstances, the visuals contained in the stand-alone sustainability reports, being visually appealing, are most likely to be noticed. Hence, it appears that companies are using visuals to facilitate the comprehension of the reports content. The present study findings are in line with

the prior studies which suggest that visuals have become important in forms such as charts, sketches and diagrams (Mouritsen, Larsen, & Bukh, 2001), financial graphs (Beattie & Jones, 2008), cartoon graphics (Smith & Taffler, 1996), press releases, video presentations and web pages (Cho et al., 2009) and architecture (Mckinstry, 1996). The visual communication has also advanced from the photograph (Berger 1972) to electronic media (Davison, 2014). It also concurred with the present theoretical framework which suggests that visuals, in many respects like financial statements themselves, 'constitute an intricate, inter linking and overlapping mélange of representation and construction' (Davison, 2010). They lie at a complex crossroad between reality and creation, objectivity and subjectivity, incremental information and impression management, where the nature of the 'reality', representational faithfulness or truth is often elusive (Gombrich, 2002; Rorty, 1979; Shapiro, 1997) cited in Davison (2014) study.

8.3.4 Selection process of the visuals

The present study also investigates, 'Who is responsible for the insertion of visuals and how are they selected'? These issues are important as we don't have any systematic knowledge to date as to how the visuals are selected and by whom. As observed, the majority of the interviewees revealed that it is the external designers who design the visuals for the stand-alone sustainability reports but they are selected internally by the Communications department. In some circumstances, the external designers also come up with some ideas and share those thoughts with the organisation to be reviewed internally so ensuring that they are visually appealing.

*"**What we have done in the past is that we identify some areas where we would need to include visuals e.g. pictures and graphs, we would then work very closely***

with our communication team internally and try to draft some ideas and will then pass along to the external design team, they will draft a few options, for example, what about this? What do you think about this one? And then we would select the one that suits the company best." (B2).

It is also interesting to know that one interviewee has stated that it is the CEO who selects the visuals in the stand-alone sustainability reports.

"The CEO will go through each visual and will ensure that it is aligned with the company overall objectives, and it portrays the company in a balanced and accurate dimension." (B1).

The interview findings also suggest that companies understand the benefits and usefulness of the visuals.

"We also make sure that the pictures show the proper safety equipment, for example, some of the pictures that we included in the report this year did not contain the proper personal protective equipment, like safety protective glasses…… because we are a mining company, so safety is really important. So next year, I am going to make sure that the safety materials are included in the picture selection process because we want to make sure that our family members depicted in the pictures wear the proper safety instruments." (B3).

This suggests that companies spend a considerable amount of time in the selection of visuals; they review visuals carefully and integrate them across the environmental, social and economic issues. To some extent, the quotes from the interviewees is consistent with current study theory framework and suggest that companies use visuals as an impression management tool.

8.3.5 Graphs

Graphs are useful visual communication tools as they hold the attention of readers, aid understanding, save money in analysing data, highlight and summarise trends, clarify relationships and also break-down language barriers and cultures. Graphs also increase the speed of decision-making (Sullivan, 1988), being more user-friendly than tables (Beattie & Jones, 1997). However, there is robust evidence that organisations use and manipulate graphs in annual reports through selectivity, measurement distortions and presentational enhancements (Beattie & Jones, 1992; 1996; 1997; 2001; 2008; Frownfelter-Lohrke & Fulkerson, 2001) and in stand-alone sustainability reports (Cho et al., 2012a, b; Hrasky, 2012; Jones, 2011) and also as shown in the present study in chapter seven section '7.1' and '7.2'. The current study findings reflect that graphs are used as tools of impression management. Firstly, selectivity in the use of graphs has consistently been shown to be positively associated with company and/or item performance, and second, where distortion in graph depiction occurs, it tends to convey a view that is more favourable than the underlying environmental and social data suggests.

To date we don't have any knowledge about the process of graph selection in stand-alone sustainability reports. This section is divided into (i) types of graphs (ii) The importance of key individuals in championing the use of graphs (iii) why companies use graphs in stand-alone sustainability reports (iv) impression management of graphs (i) graph distortions (ii) selectivity and (v) use of particular colours in graphs.

8.3.5.1 Reasons for using graphs in stand-alone sustainability reports

The present study set out to discover, "Why do companies use graphs in stand-alone sustainability reports". Again, the majority of the interviewees' contentions for the use of graphs were in line with the prior studies in the literatures (Beattie & Jones, 1992; 2008). All interviewees stated that graphs are visually appealing, they are internationally transferable, engage users more effectively, communicate information well, and are also user friendly.

"***Graphs are easily remembered; they can convey a message that can be accessible to a wide range of audiences, it is easy to simplify complex data and they make it more user friendly and more memorable. I would say when you link information to graphs and images, people can connect with that perhaps a little better than just having a bunch of texts and numbers." (B2).***

Some organisations understand the benefits of communicating with the users and therefore gather feedback from the internal and external stakeholders to identify the best way to communicate their environmental, social and economic information to the audience; and they regard this as an important business strategy. This appears to suggest that the internal and external stakeholders demand the use of graphs and therefore organisations are using them in the stand-alone sustainability reports.

"…. we always brainstorm what is the best way to communicate with stakeholders…. I think for a while now, we have just been in the mode of using graphs based on a sort of competitive analysis on companies and based on our feedback from the external consultants who have done research about who else is doing what in our industry." (B4).

8.3.5.2 Types of graphs

The present study also investigates why companies use more column and bar graphs in stand-alone sustainability reports. This was the finding of the archival work in chapter 6 '6.2.1'.

Again, the majority of the interviewees revealed that they use column/bar graphs because they are time-series graphs and can therefore portray several years' trends in one visual and because they communicate messages effectively and efficiently. This is also in line with the current study theoretical framework which argues that column/line graphs serve the purpose of impression management which has been supported through the impression management of graphs in chapter seven '7.1' and '7.2'. They may be used to maintain legitimacy within the society. This is also consistent with Beattie & Jones (2002) study, which also found that column/bar graphs are effective at portraying information.

However, a few interviewees revealed that graphs are prepared externally and that they don't have good reasons to explain their use of them. It was suggested that as long as the information portrayed in the graphs is transparent and accurate, the organisations are satisfied.

"To be honest, I never thought about that, I just leave it to the graphic designers to decide what graphs to use in order for the information to look more interesting on a page but as long as the information is truthful, I just leave it to them, I don't micro-manage the process very much at all." (B3).

The present study also investigates why companies use fewer line graphs in stand-alone sustainability reports. The majority of the interviewees thought that line graphs

cannot convey messages effectively and that they can be confusing and not visually appealing in contrast to column/bar graphs.

"Because line graphs are not good at displaying time-series of graphs, they do not reflect consistent scales on the axis and are not visually appealing. On the other hand, bar/column graphs are more visually appealing because the information can be displayed based on time-series. This enables us to make a comparison of performance from one year to another." (B5).

A few of the interviewees revealed that it is the external designers who decide which types of graphs are included in stand-alone sustainability reports and that the organisations do not engage in the selection of the graph types.

"We leave it to the external designers; they select the graph types since it is their expertise." (B6).

8.3.5.3 The importance of key individuals in championing the use of graphs

The present study investigates, 'Who is responsible for the preparation of graphs? How are they prepared?' These issues are important to investigate as there is overwhelming evidence in the literature which suggest that graphs are used as impression management tools in annual reports (Beattie & Jones, 1992; 1997; 1999; 2002; Godfrey et al,. 2003) and in stand-alone sustainability reports (Jones, 2011; Hrasky, 2012; Cho et al., 2012a, 2012b). This suggests that companies may be trying to legitimize their environmental and social credentials and legitimise their activities.

Beattie & Jones (2002) provided a guideline for the design of the graphs but, to date, based on the evidence of the prior studies, it appears that neither the guidelines are followed by the organisations nor the preparers are aware of the existence of such

guidelines. There is still evidence of impression management in graphs in both annual and stand-alone sustainability reports. However, questions remain whether the use of graph designs as impression management tools is driven internally or externally.

Interestingly, the majority of the interviewees revealed that each department is responsible for the preparation of their own graphs across the environmental, social and economic issues. The graphs are then sent to the external designers who then redesign those graphs based on the data provided by the organisations.

"….. you will find that many departments prepare their own graphs because they have the data in it as they know the data, they prepare their graphs and then the external design team re-designs those graphs in line with the reports." (B2).

The interviewees were also asked which software they use in order to prepare graphs. The majority of the interviewees revealed that they use Excel software internally as it is easy to implement and then the graphs are sent to the external designers and they use sophisticated software to re-design those graphs. One interviewee stated that the external designers use a special software called 'InDesign'.

*"**We use Excel to prepare graphs and draft versions, then I send these to an external design team and they use special software called 'InDesign'. They use this software to prepare graphs based on the data provided." (B1).***

Once again, this appears to show that it is the external designers who micro-manage the process of the selection and the design of the graphs. It also seems to reveal that

it is the external designers who may engage in the impression management of graphs.

8.3.6 Impression management of graphs

8.3.6.1 Graph distortions

The interviewees were asked whether they are aware on the literatures of the potential for graph distortions. The interview findings suggest that the organisations are not aware of this. The majority of the interviewees revealed that they don't engage in such practices and that the manipulation of information is taken very seriously within the organisations. They seemed to believe that such practices would have a series business consequence in the long-term.

"I am not aware of this. It ultimately comes to the ethical culture of the company representing the information in the best way they can. As far as I am concerned, we will not do that. We will be in big trouble because we have external commitments and we have commitments to report our performance truly and accurately. I would say of course we want to show the messages that we are most proud of but the idea is also to highlight challenges in the report but also to highlight the areas that we are most proud of." (B2).

However, interestingly, one interviewee revealed that they don't engage in the impression management of graphs but they do acknowledge that this has been an issue and specifically some large organisations may engage in such practices whereby they portray their performance in a more positive light than is warranted.

"……. In relation to the measurement distortions, I think some organisations do engage in such activities, particularly the large ones. I think it would be best to

expand their knowledge in graph manipulations, maybe they assumed it is not an important issue. I think we should have compulsory graph guidelines to follow. Some organisations may engage intentionally, other may engage accidently." (B1).

The interviewees also stated that the external designers design the graphs and that the information portrayed in the graphs is accurate to the best of the organisation's knowledge.

"They certainly design the graphs, but we provide information, I don't think they manipulate it, as long as the information depicted in the graphs is accurate, I am fine with it, and I am not worried about it." (B4).

8.3.6.2 Selectivity of good and bad news

The interviewees were asked whether they are aware of the literature on good and bad news graph selectivity. All interviewees admitted that they were not aware of the literature and that they believe in the transparency of the information.

"I think there is always a risk but we are very good about transparency so actually if you look at green gas emissions, we actually talked about it in the graph on page 20 in the pdf and that graph represents the company in an unfavourable light." (B6).

However, one interviewee suggests that the selectivity of graphs may happen accidently due to the lack of knowledge and awareness among the employees in the organisations.

"… One of my colleagues reported some information in three years' time-series of graphs, I had to explain to her that the company follows a five-year time-series of graphs each year. The three-year time-series of graphs have put the company in a

positive light, it is best to report on the same time-series of graphs to avoid such situations; more needs to be done in this area." (B1).

This shows that, whilst the organisations are not aware of the literature on graph distortions or on the selectivity of good and bad news graphs; they are nonetheless aware of the issues. The organisations believe that if the information is accurate, then there is no problem in disclosing the accomplishments that they have achieved, but questions remain about the disclosure of the unfavourable information. The interviewees revealed that they believe in the transparency of the information and do not engage in the impression management of graphs. However, the transparency of information in stand-alone sustainability reports has been challenged by the prior studies (Jones, 2011; Cho et al., 2012a, 2012b; Boiral, 2013). The findings of the present study (see Chapter seven) also show strong support for current theoretical framework of visual impression management. Management graph environmental and social trend lines which present them in a favoulable light. In addition, the graph themselves when drawn are distorted more favourably than unfavourably. Overall, these findings are consistent with the idea that primarily companies are producing graphs to influence the attitudes and perceptions of their stakeholders rather than being exercise in accountability (Cooper & Owen, 2007).

Because there are two parties involved in the process of the stand-alone sustainability reports, for example, the 'Communications department' and the 'external designers', it would be impossible or difficult to identify the key people engaged in the impression management of graphs. Thus, as Beattie et al. (2008, 218) argue, relative to the need for standards in the use of graphs in financial reporting, the present study findings suggest that "users would benefit from preparers' adherence to a set of graphical guidelines." In addition to presenting guidelines on

what type of information might be provided in sustainability reports, therefore, advocate organisations such as Global Reporting Initiative may need to provide additional guidelines on *how* the information gets portrayed. The GRI guidelines may also consider to enhance the knowledge of the preparers and ensure that the preparers are aware of which graphs are considered to be misleading/inappropriately designed.

8.3.6.3 Reasons for using colours in graphs

The present study was keen to discover why companies use colours in graphs in stand-alone sustainability reports and how they are selected. As observed the majority of the interviewees revealed that the use of colours in stand-alone sustainability reports makes the graphs more aesthetically appealing, enables effective communication and allows information to be remembered more easily.

"To make information interesting and appealing, it is a communication strategy." (B5).

The majority of the interviewees showed that the colours in the graphs are selected by the Communications departments and the external designers but the organisation ensure that the colours are in line with the brand guidelines.

"For colours, we have a Marketing Communications department and they have, I forgot what it is called but they have an acceptable pallet of colours that was given to the external designers, so we have certain colours that are allowed and considered brand-compliant. But we have certain colours that we shouldn't use, so we have the guidelines." (B4).

8.3.6.4 Green colour in graphs

The present study was interested to know why companies use more green colours in stand-alone sustainability reports. The majority of the interviewees revealed that they don't use green colours in stand-alone sustainability reports and only use those colours which are consistent with the brand. However, many of the interviewees showed that companies may use green colours in stand-alone sustainability reports as they assumed that the use of green has connotations of environmental "greenness". Consistent with the current study theoretical framework, green colour graphs in GRI-compliant standalone sustainability reports may be used as visual rhetoric tools to persuade readers favourably about environmental and social performances. This in turn appears to suggest that the organisations care about the environmental issues and could therefore be perceived by users as sustainable organisations.

"***Maybe that is the bias of "greener". We are not thinking about this, we are more interested in the sustainability report flourishing and move away from green and we are not just focusing on environmental dimensions but social too, people's well-being and prosperity, but maybe some organisations just use green because they feel that it is associated with the environmental performance or maybe even makes people think that they are even better than they are." (B3).***

8.3.6.5 Orange colour in graphs

The interviewees were also asked why they use orange colours in stand-alone sustainability reports. The majority of the interviewees stated that they didn't know the reasons for the use of orange in the reports and reiterated that they use colours which are in line with the brand guidelines.

"… To be honest I never thought about the meaning of colours except the green. And again, we don't try to do that." (B3).

8.3.6.6 Reasons for using mixed materials

The present study was also interested to identify why companies make more use of mixed materials in the stand-alone sustainability reports. The majority of the interviewees showed that they use mixed materials in stand-alone sustainability reports in order to reinforce and support the arguments portrayed. The interviewees revealed that combining both visuals and text appealing to the audience and that the absence of one undermines the message portrayed altogether. The visuals combined with the narrative assist the users to understand the message in an effective manner.

"Well, because the visuals are part of the story so it is important to convey that, otherwise it is just an image. It is important to contextualise images and pictures/graphs that you are using to the context and that is why we are trying to make that link." (B2).

"The text explains the story and the visuals e.g. images reflect that story." (B5).

The present study's empirical findings are consistent with prior studies documenting that the relationship between the verbal and visuals are exceptionally strong, with each verbal element containing a 'visual parallel' without which the verbal cannot be fully understood (Jameson, 2000, p. 8). Companies employ visual techniques within narrative sections to convey impressions of accuracy and honesty (Greenwood, Haylock, & Uhlenbruch, 2008b). The current study's theorectial framework suggests different possible interpretations for the use of mixed materials in standalone sustainability reports; on the one hand, companies employ visual techniques within

narrative sections to convey impressions of accuracy and honesty (Greenwood, Haylock & Uhlenbruch, 2008). This suggests that accuracy is effective when reports include a combination of visual and narrative information as they carry direct meaning and can be employed in responsibility-seeking communications. On the other hand, they may be employed to reinforce and support each other and may also be used for impression management purposes in order to maintain legitimacy within society.

8.3.7 Reasons for using blank space in stand-alone sustainability reports

The present study investigates why companies use blank space in stand-alone sustainability reports. The majority of the interviewees have indicated that they use blank space in the reports because it makes the communication more effective, user-friendly and helps lay information out in a way that is visually appealing. The interviewees also suggested that having several texts in the stand-alone sustainability reports will have a negative implication as the message will get lost. They revealed that given that the production of stand-alone sustainability reports is a very lengthy and expensive process, it makes good business sense to use blank space in order to attract more users.

*"**The sustainability report is a very expensive and time-consuming process, most large organisations ensure that the report tells a good story, it doesn't necessarily mean that the organisations are misleading, but at least they want to ensure that the reports tell a good story to the users." (B1).***

"….. It is a communication strategy, you don't want to see the report dull and boring with lots of texts and visuals, it is best to leave blank space in order to make the report unique." (B3)

8.4 Summary interview findings

Questions	Summary findings from all interviewees
Process of stand-alone sustainability reports	
Who is responsible for the preparation of stand-alone sustainability reports?	Human Resources, Supply Chain, Legal and Ethics, Environmental teams, Logistics, Marketing, Safety and Operations, Security teams, Accounting departments, Sustainability and Communications teams and external designers. However, the Communications department and the external designers were the key players in the make-up of the overall documents. Unexpectedly the Accounting departments' main contribution was to authorise the cost associated with the stand-alone sustainability reports.
Who authorises the final publications?	The documents are authorised by the CEO followed by the Chairman and the external auditors.
How long does it take to prepare stand-alone sustainability reports?	A minimum of four months to a maximum of one year in all companies.
How many people are involved in the preparation of the stand-alone sustainability reports?	There are 25-30 people involved in all companies in the materiality process and several people in the data collection stages.
How much does it cost to prepare stand-alone sustainability reports?	The interviewees indicated that the stand-alone sustainability reports are very costly, ranging from $100,000 to $500,000. This includes the cost of production, design and printing.
What factors have increased the cost of the stand-alone sustainability reports?	The GRI guidelines and the multiple publications of the stand-alone sustainability reports.
Who is responsible for the design of the stand-alone sustainability reports?	The data is collected and organised internally by the Communications departments. The design of the documents is outsourced to external designers.
GRI guidelines	
Why do companies use GRI guidelines and how useful are they?	There are reasons for the use of the GRI guidelines (i) most widely used internationally and international standard for the use of the GRI guidelines (ii) used the GRI guidelines for a long time (iii) they are a member of the Council that requires them to align with the GRI guidelines**.** The GRI guidelines are useful as a starting point, however, they involve several indicators that are not relevant to the organisation, open to different interpretations and not a standardised framework.
Content of the stand-alone sustainability reports	
Why do companies generally use fewer numbers in stand-alone sustainability reports?	Numbers are included in the annual reports and the companies do not wish to repeat the same information again. It is difficult to make the stand-alone sustainability reports interesting with numbers and stand-alone sustainability reports are aimed at broader stakeholder groups not only shareholders.
Why do companies generally use more narratives in stand-alone sustainability reports?	To assist users in understanding sustainability issues.

Why do companies use visuals in stand-alone sustainability reports?	Visuals are user-friendly, international, interesting, easily remembered and users can pick up the key messages.
Who is responsible for the insertions of visuals and how are they selected?	The external designers design the visuals but they are selected internally by the Communications departments. However, organisations do get suggestions from the external designers. Interestingly, the CEO is also engaged in the selection of the visuals.
Graphs	
Why do companies use graphs in stand-alone sustainability reports?	Graphs are visually appealing, international, user friendly and engage users. The internal and external stakeholders demand the use of graphs in the stand-alone sustainability reports.
Why do companies use more column and bar graphs in stand-alone sustainability reports?	They are time-series of graphs and communicate information more effectively and efficiently.
Who is responsible for the preparation of the graphs and how are they prepared?	Each department is responsible for the preparation of their own graph across the sustainability domains. The graphs are then sent to the external designers who then redesign those graphs based on the data provided.
Which software do they use in order to prepare graphs?	They use Excel and then the external designers use sophisticated software to re-design those graphs.
Are preparers aware of the literature of the graph distortions and selectivity of good and bad news graphs?	They don't engage in such practices. They stated that they are not aware of the literature and suggested a compulsory graph guideline.
Colours	
Why do companies use colours in graphs and how they are selected?	Colour makes the graph looks good, visually appealing and can be remembered more easily. They are selected by the Communications departments and the external designers but the organisations ensure that they are in line with the brand guidelines.
Why do companies use green colour in stand-alone sustainability reports?	It has something to do with the notion of 'greener' but they revealed that they don't use green colours; only those that come within the brand guidelines.
Why do companies use orange colour in stand-alone sustainability reports?	They don't know the reasons and hadn't thought about the meaning of the colours except green.
Mixed materials and blank space	
Why do companies make more use of the mixed materials in the stand-alone sustainability reports?	To reinforce and support the arguments portrayed, make the story more interesting and visually appealing, and the absence of one undermines the message portrayed.
Why do companies use more blank space in stand-alone sustainability reports?	They make the communication more effective, user-friendly and lay out the information in a way that is visually appealing and helps to attract more users.

The present study makes an important contribution to the Farneti & Guthrie (2009) study by focusing on the process and preparation of GRI-compliant, stand-alone sustainability reports from large, private organisations. It also investigates the process of inclusion of visuals and the people involved in the decision-making. This work is a preliminary investigation.

Some of the empirical findings are particularly interesting. For example, respondents emphasised that the accounting department was usually not involved in the preparations of SASRs, other than providing data for inclusion in the reports. The use of external designers for SASRs was consistent with Stanton and Stanton's (2002) finding that larger companies typically outsource the design task of their annual reports to an external design agency.

Although respondents did not generally appreciate that certain colours are associated with particular emotions, they saw colours as part of effective communication. Several respondents pointed out that their company had policies over the choice of colours, with specific colours being considered to be "brand-compliant". The importance of specific colours in establishing brand identity was demonstrated by the attempt of chocolate manufacturer Cadbury to register its traditional purple shade (Pantone 2685C) used for packaging chocolate bars as a trade mark (BBC News 2013).

Interviewees described the process of preparing SASRs as expensive and time-consuming, particularly as costs are likely to be considerably in excess of direct expenditure on external designers and production. The amount of employee time devoted to preparing SASRs is considerable. In all the organisations examined, work on the SASR is only part of the responsibilities of staff, even those in the

Communications department. Hence the range of costs is likely to understate the costs by a substantial amount. Respondents suggested that two factors that tend to inflate costs are compliance with GRI guidelines and producing the SASRs in multiple forms (printed versions, downloadable pdf versions, interactive versions, summaries).

Despite their grumbles over the cost of compliance, the GRI guidelines were generally appreciated as a useful starting point for environmental and social reporting. However, some respondents considered that they were both too imprecise and too demanding in terms of the need to disclose detailed information. The interviewees certainly considered that high-level compliance with the GRI guidelines was appropriate for their organisations, suggesting that issues of maintaining an appearance of legitimacy influenced their use of the guidelines. The interview findings were consistent with prior studies that suggest that companies espousing a rhetoric of sustainability use the GRI "engage in 'green wash' for the marketing benefits it would give their companies" (Laufer, 2003: 259). The GRI guidelines alone are insufficient in achieving corporate accountability since reporting is driven by strategic considerations (Hess, 2008). This suggests that the GRI guidelines have not overcome the problems of accountability, reliability and transparency. It will be interesting to see how the move from GRI guidelines to GRI standards from July 2018 affects the attitudes of preparers of SASRs to the GRI.

Other findings provide additional support to previous research. With regard to the content of SASRs, companies use visuals to make their story more interesting, memorable and visually appealing. Indeed, visual design techniques have become "heavyweight ingredients, in the richness and potency of their messages" (Davison, 2007: 137). An example of this is the use of blank space to present information in a

way that is visually appealing. The interviewees recognised that stand-alone sustainability reports are not read thoroughly and therefore visuals and blank space are useful for this purpose. It has been recognised for a long time that most readers of corporate annual reports spend little time reading detailed text. The classic study by Lee and Tweedie (1975) found that although the annual report is a primary source, it is not read thoroughly. This finding was supported by Squiers (1989: 218), who documented that "40% of stakeholders spend five minutes or less looking at annual reports". In such circumstances, the visuals contained in SASRs, which are produced voluntarily, need to be attractive to readers, and hence they are carefully selected and often approved specifically by senior management.

Graphs are used as they are effective at communicating information, easily remembered, visually appealing and international in context. This concurred with prior studies (Beattie and Jones, 1992; 2008). The colours used in graphs are also considered to be visually appealing and more easily remembered. This is consistent with prior studies that the visual saliency of graphs is enhanced by the use of colours (Leivian, 1980, cited in Beattie & Jones,2008).

Collectively, this chapter provides further support to the current study theretical framework of visual impression management. The prepareres are aware of the power of visuals specifically graphs and colours but neither admit nor decay that they engage in the impression management of graphs. A surprising finding was the lack of awareness on the part of interviewees of the extensive literature on graph manipulation, although some interviewees suspected that such manipulation, and impression management more generally, went on in other companies. The evidence which the current study presents in chapter seven and eight, at least in terms of graphical presentation, companies appear to be guilty of systematic manipulation

designed to paint a more favourable picture of the firm. This is evidenced in the use of both good and bad news graph selectively including graph distortions impression management strategy. This chapter provides additional evidence that corporate social responsibility, as it currently exists, appear to be about fostering positive positive public relations than providing a meaningful accountability of the environmental and social impacts of the firm. The visuals specifically graphs enable the companies to serve their purpose of impression management to maintain legitimacy within the society.

The systematic manipulations of graphical disclosure in the environmental and social is perhaps more troubling for disclosure arenas than for similar distortion in annual reports. While, annual reports is mandatory and subject to substantial regulatory rules, sustainability reports prepared in the GRI guidelines remains voluntary and non-regulated. Thus, as Beattie et al. (2008, p. 218) argue relative to the need for standards in the use of graphs in financial reporting, the present study findings in chapter seven and eight suggest that " users would benefit from preparers' adherence to a set of graphical guidelines".

Chapter Nine: Conclusion

This thesis investigates the length and make of stand-alone sustainability reports in GRI stand-alone sustainability reports. This was achieved through archival work of the content of the overall document in the context of visual materials and narrative mixed with visuals. A further archival work was conducted focusing on graphs. Secondly, it investigates the evidence of impression management in graphs; (i) GRI-compliant companies; and (ii) high sensitive sectors versus low sensitive sectors. This is achieved through descriptive statistic methods (percentage and mean). Thirdly, how are sustainability reports prepared within companies focusing specifically on graphs? This thesis conducted semi-structured interviews with the key preparers to obtain an in-depth understanding of the impression management of graphs in stand-alone sustainability reports. This chapter summarises its main findings and implications for policy makers arising from the foregoing analysis of GRI stand-alone sustainability reports. This is followed by the contributions, limitations and recommendations for a further study.

9.1 Summary of main findings

9.1.1 The length and make-up of SASRs across all companies

In summary, the key findings were that the stand-alone sustainability reports have become lengthy and substantial documents incorporating significant proportions of visual materials when compared to the annual reports**.**

GRI-compliant stand-alone sustainability reports are voluntary which provides considerable freedom to decide both the content and the presentation of this content? This may provide incremental information to support stakeholder decision-making and to signal to the shareholders that they ought to take sustainability development more seriously. This may result in perceived financial value and enhance legitimacy (Tench et al., 2007). GRI-compliant stand-alone sustainability reports "provide stakeholders with enhanced information to inform their decisions" (GRI, 2013, p.13). This statement emphasises the role of sustainability reporting in giving incremental information to stakeholders. However, many researchers (Cerin, 2002; Coupland, 2006; Hooghiemstra, 2000) and practitioners criticise that the sustainability report is used to manipulate stakeholders (Coupland, 2006) and create favourable impressions of companies' operations that may not accurately reflect reality.

Notably, in stand-alone sustainability reports, visuals and mixed materials occupy 30% of the reports. This is a high percentage given that stand-alone sustainability reports and visuals are unregulated and unaudited, in line with prior studies of annual reports (Lee, 1994; Davison & Skeratt, 2007; Beattie et al., 2008) and in stand-alone sustainability reports (Duff, 2016; Pesci & Costa, 2014).

Pictures/photographs occupied 8 pages in stand-alone sustainability reports compared to 4 pages in annual reports and 10 pages in annual reviews as shown in Table 16 (Davison &Skerratt, 2007). This is significant given that pictures carry a much richer variety of messages (Davison & Skerratt, 2007) and communicate intangible assets that cannot be expressed by the financial statements. This concurred with Unerman's (2000) study that photographs are more powerful tools than narrative disclosures for stakeholders who do not have the time to read every word, but simply 'thumb' through the reports. Although graphs occupy a smaller proportion in stand-alone sustainability reports than pictures/photographs, they still occupy twice as much space as in annual reports (Davison & Skerratt, 2007). This is another important finding. However, if graphs are designed accurately, they may provide incremental information for the users. They can facilitate understanding, save money in analysing data, highlighting and summarising trends, clarify relationships and also break-down language barriers and cultures. Or ultimately, they may be used as impression management tools. Graphs may be used to distract readers from actual operations, while creating an impression of good corporate citizenship (Boiral, 2013). This is well suited to both lay and expert readers who pay more attention to the discretionary information presented in pictures and graphs than to the accounting statements (Bartlett & Chandler, 1997). This concurred with Graves et al. (1996) study that organisations carefully review the substance they choose as a key way of displaying themselves and their relationships with stakeholders. Hence, pictures and graphs matter in their rhetorical patterns, just as 'words do matter' in the rhetoric of accounting narratives (Young, 2003, p.625) cited in Davison (2014). Yet the presentational roles of visuals have been little researched compared to that of narratives. Prior psychological literature supports the view that

visuals are more easily remembered than words (Nelson & Castano, 1984), and are known to have a specific place in memory cognitions (Beattie & Jones, 1992). Studies also suggest that the retention rates are higher for visual information than narrative (Graber, 1989).

9.1.2 The length and make-up of SASRs between high and low sensitive sectors

Unexpectedly, the overall length of stand-alone sustainability reports in the high sensitive sectors were less than the low sensitive sectors, 90 pages compared to 101 pages in the low sensitive sectors as shown in Table 18. This was evidenced in all high sensitive sectors (Energy, Chemical, Automotive and Mining) and unexpectedly the Financial Service in the low sensitive industry sectors has driven the result on the length and make-up of standalone sustainability reports of the low sensitive sectors significantly. This appears to show that the Financial Service industry sectors has also recognised the importance and advantage of voluntary information and take full advantage of non-regulated GRI-compliant standalone sustainability reports in communicating their environmental and social information.

In terms of overall rankings, both sectors have devoted more space to narratives followed by blank space, mixed materials and visuals. As anticipated, high sensitive sectors devoted more space to numbers, visuals and mixed materials than low sensitive sectors. Overall, these results were driven by the Chemical and the Energy sectors.

Conversely, low sensitive sectors devoted more space to narratives and blank space than the high sensitive sectors. Overall, the results of the low sensitive sectors were led by the Telecommunications and the Financial Services sectors. They were keen users of numbers and visuals specifically (pictures/photographs and graphs).

Collectively, to summarise, the result concurred with the present theoretical framework that firms with high levels of CSR reporting are forced to respond to stakeholder pressures (Hahn & Kahnen, 2013) and adhere more tightly to CSR standards. This may be due to the higher natural resource consumptions of these sectors, which attracts more social and political pressure to improve on sustainability reporting and thus as a legitimacy device to reduce or allay any potential threats to legitimacy. Legitimacy theory explains these findings by suggesting that companies that face greater threat to legitimacy and public pressures i.e. higher polluting companies, voluntarily employ more extensive disclosures to deflect attention and change societal perceptions. They are more likely to be regulated and often receive more media attention. In an attempt to address these issues, companies may exploit communicative strategies to deflect attention and change societal perceptions, expectations and values (Lindblom, 1994; Hooghiemstra, 2000).

9.2 Graph use and impression management across all companies

There are eight main findings in the use and impression management of graphs. Firstly, graphs are widely employed by companies to present environmental and social performance. On average, companies produced 25 graphs per company compared to prior studies, 13 (Jones, 2011) and 12.5 (Cho et al. 2012b) as shown in Table 36. This suggests that graphs are an important and valued method of corporate environmental and social reporting. Graphs can improve the effectiveness of information conveyance as "they rely on spatial rather than linguistic intelligence" (Beattie & Jones, 2000a, p.216).

Secondly, several different graphical presentation formats were employed, the most popular format being the vertical column (36% of all graphs) and bar (22.5% of all graphs) compared to 50% (column) and 16% (bar) graph in the Jones (2011) study as

shown in Table 37. This also reflects the pattern found in annual reports. For example, Steinbart (1989) showed that bar graphs represent 78% of all graphs. Beattie & Jones (2002) argued that bar and column graphs are effective in portraying information simply, and for unsophisticated readers in particular they may permit easier understanding than the traditional financial statements. In a similar manner, these formats are particularly useful when graphing time-series data of key environmental and social topics. It also concurred with Hrasky (2012) study which argued that column graphs were more common graphical formats in sustainability reports. Additionally, this may also result from the relative newness of stand-alone sustainability as a reporting medium leading to a lack of comparative data and settled practice in this area. Or alternatively companies may consider that longer data trends might potentially portray them in a bad light which is consistent with current study theoretical framework of visual impression management.

The third main finding is that there was no homogeneity in the number of years graphed. There were spreads of graphs covering less than 5 years (83%) with not quite 5% of graphs having trends greater than 5 years as shown in Table 41. As a result, graphical practice in environmental and social reporting has not normalised as is the case for the use of graphs in annual reports. Fourthly, a wide variety of topics were graphed ranging from environmental investments to emissions. The graphs cover the whole domain of the stand-alone sustainability reports with a particular concentration upon environmental and social activities. For example, companies produced 44% (environmental), 37% (social graphs) and 19% (economic). This is in line with the Cho et al. (2012b) study. However, there were no graphs related to the environmental fines in the present and prior studies such as Jones (2011), Hrasky (2012), Cho et al. (2012a, b). This is contrary to the GRI principles of balance and

transparency and supports Boiral (2013) study which has questioned the transparency and reliability of the GRI-complaint stand-alone sustainability reports.

Fifth, the most popular graph colour was green (24.5% of all graphs) followed by blue (17% of all graphs) and orange (16.5% of all graphs) as shown in Table 41. This is in line with prior studies which suggests that green and blue colours are well-liked across countries and share similar meanings (Madden et al; 2000) cited in Courtis (2004). Courtis (2004) found that the use of green colour in the background is associated with the highest investment allocations and good environmental practices. A blue colour is associated with a higher order of legibility and is more appealing to the eyes, attracting more attention (So & Smith, 2002). An orange colour denotes cheapness (Adams & Osgood, 1973). Orange may be used in stand-alone sustainability reports to portray an image of cost consciousness and restraint.

The use of green, blue and orange colours may be employed in order to improve communication. On the other hand, they may be employed to mask the negative news and direct attention to other matters. Thereby, visual rhetoric as proxied by colour may play a role in highlighting better performance and obfuscating poor performance across the environmental and social issues. As a result, the use of colours in graphs is tied to image management and impression management (Courtis, 2004).

Sixth, there was clear evidence of impression management of graphs. There were 528 multiple year data graphs (column and bar) where measurement was possible. With regards to the impression management of selectivity of good and bad news topics, overall there were 181 (or 23.5%) instances of good news topics and 347 (or 76.5%) instances of bad news topics. When the nature of the trends is taken into

consideration, companies overwhelmingly preferred to select a combination of topics and trends which presented the company performance favourably (408 or 77.5%) rather than unfavorably presented trends (120 cases or 22.5%) as shown in Table 50. This applied to both environmental and social items. However, the trends were higher for socially than for environmentally favourable trends: 87% compared to 73% favourable environmental trends. This concurred with the impression management framework which suggests that companies portray their environmental and social performance more favourably than is warranted. This is also in line with prior studies in stand-alone sustainability reports (Jones, 2011; Cho et al., 2012a,2012b).

Seventh, there was evidence that graphs were likely to be drawn so as to give a more favourable picture of the underlying environmental and social activities. There were 385 or 73% (140 or 26.5% relating to bad news topics) where the data trends of the graphs were distorted in a company's favour. In contrast, 82 or 15.5% (33 or 6.5% relating to the good news topics and 49 or 9.5% relating to the bad news topics) of graphs were distorted unfavorably as shown in Table 56. There were 11.5% graphs that were not materially distorted. This was consistent in both environmental and social graphs. However, favourable distortion graphs were higher for environmental rather than social graphs: 51% (environmental) compared to 22% (social) as shown in Table 57. This concurred with a self-serving managerial agenda rather than with the notion that firms were trying to be truly accountable to stakeholders for their environmental and social performance. This is also in line with a more recent paper by Falschlunger et al. (2015) which found that the topics displayed, and how they were presented, significantly changed over time and that graphs are much more likely to exaggerate positive trends than to understate them.

Overall the findings in this thesis support critics who lament that stand-alone sustainability reporting is not about providing meaningful accounting of corporate impacts across the sustainability domains, but more on projecting an image of positive performance. It also contradicts with prior studies which suggest that firms which follow the GRI framework appear to have higher levels of commitment to CSR than firms which do not follow it (Guenther, Hoppe & Poser, 2006; Michelon, Pilonato & Ricceri, 2015). Since the favourable distortions were somewhat higher than the percentage of materially distorted graphs reported by prior studies in annual reports (Beattie & Jones, 1992; Beattie et al., 2008 and Steinbart, 1989) and substantially higher than the 63% level of distorted graphs reported by Mather et al. (2000) for non-key financial variables in Australia IPOS. They are also substantially higher than prior studies in stand-alone sustainability reports (Jones, 2011; Cho et al., 2012a, 2012b). The impression management of graph is also incompatible with most GRI principles: completeness, transparency, reliability and balance. Hence, the voluntary, non-regulated nature of the practice leaves it opens for potential abuse. This study shows that companies produce graphs in order to influence the perceptions of their stakeholders rather than to display the environmental and social information in accordance with the "true and fair view" principle that is requested by the IASB and the GRI reporting initiatives which noted the neutrality in the presentation of graphs cited in GRI (2006).

9.2.1 Graph use and impression management across sectors

As would be expected, high sensitive sectors have used more graphs than low sensitive sectors: 27 compared to 20.5 graphs per company in the low sensitive sectors as shown in Table 43. The same pattern emerged with graph usage as with stand-alone sustainability reports. The Energy and the Chemical sectors led graph usage in the high sensitive sectors compared to a higher use of graphs by the Financial Services and the Telecommunications sectors in the low sensitive sectors.

The use of column and bar graphs was more widespread in both sectors, however, high sensitive sectors produced more than the low sensitive sectors as shown in Table 44. High sensitive sectors were also keen users of shorter time-series graphs than low sensitive sectors. On average, they produced 20 (less than 5 years) 5 (5 years) and 1.5 (greater than 5 years) compared to 19 (less than 5 years), 0.75 (5 years) and (0.5) greater than 5 years per company in the low sensitive sectors as shown in Table 45.

Across the sustainability domains, on average, high sensitive sectors produced 12 (environmental), 9 (social) and 5.5 units of economic graphs per company compared to 7 environmental and social and approximately 3 (economic graphs) in the low sensitive sectors as shown in Table 46. The top four environmental topics (emissions, hazardous waste, energy use/savings and water consumption) accounted for 20% compared to 11% in the low sensitive sectors. Similarly, the most popular social graphs (safety and health, employees, supplier and social investment) accounted for approximately 18.5% compared to 14% in the low sensitive sectors. The most popular economic graphs (sales) accounted for 6% compared to 2% in the low sensitive sectors as shown in Table 47. Additionally, on average, high sensitive

companies produced more green (8.5 units) followed by blue (5 units) compared to 3 units of green and blue per company in the low sensitive sectors. However, high sensitive sectors produced fewer orange coloured graphs: on average 3.5 units compared to 4.5 units per company in the low sensitive sectors. Most of these results were driven by the chemical and energy companies in the high sensitive sectors and telecommunications and the financial Services companies in the low sensitive sectors.

With regards to the impression management of graphs, favourable trends and distortions were more widespread in the high sensitive sectors than low sensitive sectors. High sensitive sectors (ratio 4:1 favourable versus unfavourable trends) were more selective in the choice of good and bad news graph topics compared to (ratio 2.5:1 favourable versus unfavourable trends) in the low sensitive sectors. Similarly, high sensitive sectors produced (ratio 9:1 favourable versus unfavourable distortions) compared to (ratio 2:1 favourable versus unfavourable distortions) in the low sensitive sectors.

Across the environmental domains, high sensitive sectors produced ratio (4:1 favourable versus unfavourable trends) compared to ratio (2:1 favourable versus unfavourable) in the low sensitive sectors. Similarly, the high sensitive sectors produced ratio (9:1 favourable versus unfavourable distortions) compared to ratio (2.5:1 favourable versus unfavourable distortions) in the low sensitive sectors. Additionally, across the social domains, high sensitive sectors produced ratio (7:1 favourable to unfavourable trends) compared to ratio (4:1 favourable to unfavourable trends) in the low sensitive sectors. Similarly, high sensitive sectors used ratio (8:1 favourable to unfavourable distortions) compared to ratio (2:1 favourable to unfavourable distortions) in the low sensitive sectors. All sectors in the high

sensitive sectors were particularly keen to present favourable versus unfavourable trends and distortions. This suggests that high sensitive sectors may be trying to demonstrate their environmental and social credentials and legitimatise their activities.

Unexpectedly, the result of the favourable trends and distortions in the low sensitive sectors were led by the Telecommunications and the Financial Services sectors. Their reporting pattern differs from other companies in the low sensitive sectors, specifically the Retail and Media sectors. This concurred with Jones (2011) study which found that Financial Services companies were keen to give a favourable impression of their environmental activities. They may also be driven by attempts to address general societal concerns (that are not just industry-specific). Additionally, these sectors are also considered to have a high visibility across social issues, specifically among consumers (Branco & Rodrigues, 2008) and therefore may have different reporting patterns than the Media and the Retail sectors in the low sensitive sectors.

Collectively, these finding show strong evidence for impression management in the high rather than low sensitive sectors. Overall, these findings are consistent with the idea that primarily companies are producing graphs to influence the attitudes and perceptions of their stakeholders rather than being exercises in accountability (Cooper & Owen, 2007). It is consistent with Jones & Slack's (2009) study that high impact companies employed more targets (2.9 per company) compared to 2.4 in the low impact companies. The findings also concurred with Hrasky (2012) study which found that the most sustainable driven firms disclose more graphs than do less sustainable driven firms in communicating quantitative data that is likely to be more reflective of underlying operations and their impacts and appear to seek moral

legitimacy. Therefore, the present study shows that companies not only systematically selectively present information, but also systematically bias their results. Companies are thereby missing the opportunity to uses graphs properly to provide incremental information to enhance effective communication of environmental and social information. Rather than enhancing accountability and transparency, they are undermining it and misrepresenting the data surrounding the environmental and social profile of their company. However, if users are encouraged by impression attempts, it results in unwarranted support by stakeholders and the general public.

9.3 Authorship of stand-alone sustainability reports

There are several departments engaged in the process of the stand-alone sustainability reports specifically in the data collections stage. This includes Human Resources, Supply Chain, Legal and Ethics, Environmental teams, Logistics, Marketing, Safety and Operations, Security teams and Sustainability and Communications teams. This concurred with prior studies documenting that many companies devoted a considerable amount of effort and time to publish their stand-alone sustainability reports (Cerin, 2002; Unerman et al., 2007) and annual reports (Preston et al., 1996). However, Communications departments and the external designers were the key people engaged in the make-up of stand-alone sustainability reports. External designers are also responsible for the overall design of the documents and work in line with the Communication departments. This concurred with Stanton & Stanton's (2002) study which suggests that larger companies typically outsource the design task to an external design agency.

The CEO, Chairman and the external auditors of the company authorise the stand-alone sustainability reports. This shows that companies recognised the financial and

wider benefits of stand-alone sustainability reports as discussed in Chapter two '2.1.1'. The preparation process of stand-alone sustainability reports is complex and costly. Companies spend at least six months in the preparation of stand-alone sustainability reports, and it cost approximately $1000,00 to $500,000 in terms of the production, design and printing of the reports. This has been driven by the multiple publications of stand-alone sustainability reports and the GRI guidelines which require companies to report across sustainability domains extensively. The GRI guidelines are regarded to be useful as a starting point, however, the interview findings revealed that the guidelines include several indicators that are not relevant to their organisation. The GRI guidelines are also open to different interpretations, are time-consuming and provide room for impression management. This concurred with prior studies which suggest that companies espousing sustainable rhetoric, use the GRI to engage in 'green wash' for the marketing benefits it would give their companies" (Laufer, 2003, p. 259). The GRI guidelines alone are insufficient in achieving corporate accountability since reporting is driven by strategic considerations (Hess, 2008). This suggests that the GRI guidelines have not overcome the problems of accountability, reliability and transparency. This concurred with present theoretical framework that the GRI guidelines may be employed by companies as impression management tools for legitimacy purposes.

With regard to the content of stand-alone sustainability reports, firstly companies use fewer numbers because these numbers are already included in the annual reports and companies may not wish to repeat the same information in both reports. This concurred with Hrasky (2012) study's which revealed that companies disclosed considerably more on environmental and social issues and less on economic issues.

Secondly, they use more narratives to help the users to understand the story. Thirdly, visuals are used to make the story more interesting, memorable and visually appealing. This concurred with Davison (2007, p.137) documenting that visual design techniques have become "heavyweight ingredients, in the richness and potency of their messages".

Fourthly, mixed materials are used to reinforce the message portrayed. This is also in line with prior studies which suggests that visuals can be employed to highlight and reinforce qualities not presented in written or numerical accounts in corporate reports (Davison, 2010; Warren et al., 2009).

Fifth, the blank space is used to present the information in a way that is visually appealing. The interviewees recognised that stand-alone sustainability reports are not read thoroughly and therefore visuals and blank space are useful for this purpose. This concurred with Squiers' (1989, p.218) study documenting that "40% of stakeholders spend five minutes or less looking at annual reports". Lee and Tweedie (1975) also revealed that although the annual report is a primary source, it is not read thoroughly. In such circumstances, the visuals contained in stand-alone sustainability reports, which are produced voluntarily, are likely to represent cases of interest for the readers.

Sixth, graphs are used as they are effective at communicating information, easily remembered, visually appealing and international in context. This concurred with prior studies (Beattie & Jones, 1992; 2008; Lewandowsky & Spence, 1989). The colours used in graphs are also considered to be visually appealing and more easily remembered. This concurred with prior studies that the visual saliency of graphs is enhanced by the use of colours (Leivian, 1980) cited in Beattie & Jones (2008).

Seventh, the selection of visuals is undertaken by the Communications department but organisations do get suggestions from the external designers. It was also suggested that organisations are very selective when it comes to the choice of colours; they spend a considerable amount of money on the design of the stand-alone sustainability reports. Interestingly, the CEOs are engaged in the selection process of visuals and will go through each visual and ensure it is aligned with overall company objectives.

Eighth, all interviewees were unaware of the literature on graph manipulations and believed in the transparency of information. Interestingly, there was some evidence which suggested that large companies are selective in the presentation of favourable versus unfavourable information. This supports the impression management framework itself. Hence, the evidence which the current study presents in chapter seven and eight, at least in terms of graphical presentation, companies appear to be guilty of systematic manipulation designed to paint a more favourable picture of the firm. This is evidenced in the use of both good and bad news graph selectively including graph distortions impression management strategy. The findings from the interviews provide further evidence that corporate social responsibility, as it currently exists, appear to be about fostering positive public relations than providing a meaningful accountability of the environmental and social impacts of the firm. The visuals specifically graphs enable the companies to serve their purpose of impression management to maintain legitimacy within the society.

The systematic manipulations of graphical disclosure in the environmental and social is perhaps more troubling for disclosure arenas than for similar distortion in annual reports. While, annual reports is mandatory and subject to substantial regulatory rules, sustainability reports prepared in the GRI guidelines remains voluntary and

non-regulated. The present study concludes that the plausible and ultimate solutions to the manipulation of graphs may be to have a compulsory graph design guideline. The standard setters should make the preparers aware of the literature on graph manipulation and the implication that it may have on the conclusions readers draw.

9.4 The contributions of this thesis

There are three novel contributions of the present study. Firstly, this is the first study which has documented the overall length and make-up of GRI-compliant stand-alone sustainability reports into numerical, narratives and visual elements, thus scoping the context, nature and proportions of visual impression management. It thus adds to the prior work on the nature of general annual report contents (Lee, 1994; Davison & Skerratt, 2007; Beattie et al., 2008) and adds to the work of Duff (2016) and Pesci & Costa (2014) in stand-alone sustainability reports. It also contributes methodologically in considering narratives, visuals, blank space and mixed materials (Unerman, 2000). Prior studies investigated pictures, graphs and tables but did not investigate mixed materials and blank space.

Secondly, the study extended prior work on graphs in stand-alone sustainability reporting by Jones (2011), Hrasky (2012) and Cho et al. (2012a; 2012b) in various ways. Firstly, prior studies were primarily empirical work, with little theoretical discussion. The present study provides grounding in theories of impression management and legitimacy. Secondly, this thesis is based on stand-alone sustainability reports focusing on worldwide countries, whereas, prior work examines the UK (Jones, 2011), the USA (Cho et al., 2012a), the UK, the USA, France, Germany, Italy and Spain (Cho et al., 2012b). Thirdly, it brings research up to date in examining reports dated 2014. The prior work on graphs is based on 2005 reports (Jones, 2011), Cho et al. (2012a; 2012b) are based on 2006 reports. Fourthly,

it adds the dimension of the GRI (Global Reporting Initiative) guidelines, and analysing those companies whose reports are GRI-compliant. Fifthly, it advances work on sector sensitivity. Jone (2011) is the only prior study to have considered this dimension.

Sixthly, the present work uses a little-known measure of graph distortion known as RGDI Index, in contrast to the more well-known GDI (Graph Discrepancy Index) used in prior works. It also considered the use of colours in graphs that is under-researched despite colour having aesthetic appeal, arresting readers' attention and implying a prioritisation of information presented (Townsend & Shu, 2010). These are time-consuming manual analyses.

Finally, this is a preliminary investigation into the nature of sustainability report preparations and authorship, on which there appears to be almost no prior work.

9.5 The limitations of this thesis

This thesis uses content analysis and although rules have been set up to make the analysis more objective, the use of content analysis itself is inevitably affected by the judgment and understanding of the coder. Secondly, the sample of organisations selected for semi-structured interview was based on availability, and although narratives gathered from these interviews have certainly provided detailed explanations to the research questions, the sample was small and drawn from one jurisdiction (GRI 'G3'), it cannot claim to be representative of all GRI stand-alone sustainability reports preparers. A further limitation relates to the present study's focus on only one year's reports and on only large firms from a limited number of countries. Whether the findings the present study reports hold across other time periods and other samples is untested. There were also imbalances between the

sectors, and again this is due to the limited data available in the GRI disclosures database. Further study should consider a larger and balanced sample size across industry and country since reporting may be driven by the differences in the culture and institutional characteristics. Additionally, the financial service sector is considered as high sensitive sectors since the financial crisis 2008, but the present study classified it as low sensitive sector; it would be useful to consider this in the future.

9.6 Policy implications

The implications for policy makers arising from the foregoing analysis of the GRI-stand-alone sustainability reports are:

- Standard setters could make aware the communication department and the external designers of how and when graphs are considered to be misleading/inappropriately designed.

- It should also make the external designers and communication department of the literature on graph manipulations, and the implications that it may have on the users;

- Words, graphs and pictures in stand-alone sustainability reports should be taken seriously by policy makers

- Considerations should be given to improve the GRI guidelines in the areas as identified in chapter Two '2.1.3' (problems with the guidelines). The GRI guidelines are not a standardised reporting framework and open to different interpretations. It would be useful if the GRI guidelines design a standardised framework in setting a strict GRI-checked aiming at defining the content of

the reports (materiality, stakeholder inclusiveness, and sustainable context), and indicators suited to define the quality of reporting (completeness, balance, clarity, comparability, and reliability) through a detailed set of tests. They should invest more resources in overcoming these issues, although it will come at a cost but the cost can be covered by increasing the payment of an annual contribution. Currently, they charge €10,000 for organisations with revenue/operating budgets above €1 billion, and of €500 for organisations with revenue/operating budgets of less than €1 million (GRI, 2013). This in turn may overcome several issues which have been identified in the literature reviews and through interview findings.

- The current thesis reflects the power of visuals which are used as framing device to influence decision making (Tversky & Kahneman, 1986 cited in Davison, 2010) and is considered effective means of communication in portraying social and environmental issues. The interviewee findings reflect that visuals are so prominent that even the CEOs are engaged in the selection of visuals. Therefore, it would be useful if considerations considerations are given to extending accountants' training to given more attention to communication and presentation in the context of visuals.

9.7 Further research

This is one of the first studies into this emerging area, specifically in the length and make of stand-alone sustainability reports and in establishing the process and content of the GRI stand-alone sustainability reports from the preparer perspectives. It would therefore be more useful for further studies to be carried out in other context, i.e. not solely UK or USA.

The present study investigated GR1 '3.1' guidelines; future research should consider GR1 'G4' guidelines. In addition, an interview study with the designers would be useful to establish the key decision makers in the design of the stand-alone sustainability reports, specifically focusing on visuals. Another interesting area would be a longitudinal study of environmental and social graph usage. Such a study would provide a rich insight into how reporting practices develop over time in an emerging area in GRI stand-alone sustainability reports.

Further study should also make a comparison on the content of stand-alone sustainability reports and impression management of graphs between GRI and Non-GRI-compliant standalone sustainability reports. Extensions in these areas would facilitate a better and more holistic understanding of the voluntary information focusing specifically on the impression management of graphs.

Moreover, while the present study shows evidence of favourable bias in graph usage for GRI-compiant standalone sustainability reports, the present study does not examine whether it also influences user perceptions of performance across sustainability domains. Extension of research to address this shortcoming would also appear to be warranted.

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